DENON

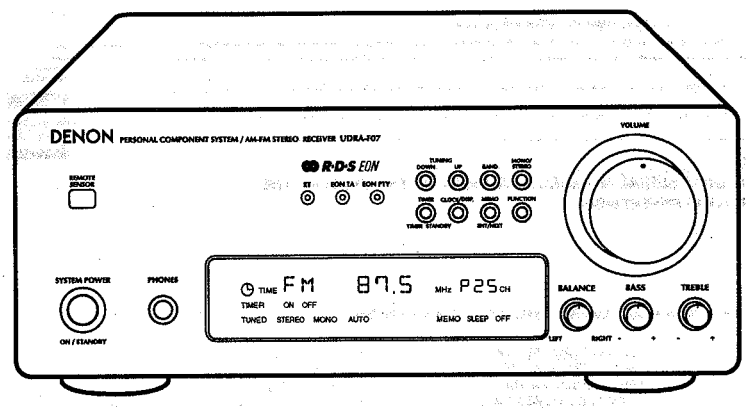
Hi-Fi Personal Component System

For Europe Model

SERVICE MANUAL

MODEL UDRA-F07

AM-FM STEREO RECEIVER



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• Some illustrations using in this service manual are slightly different from the actual set.

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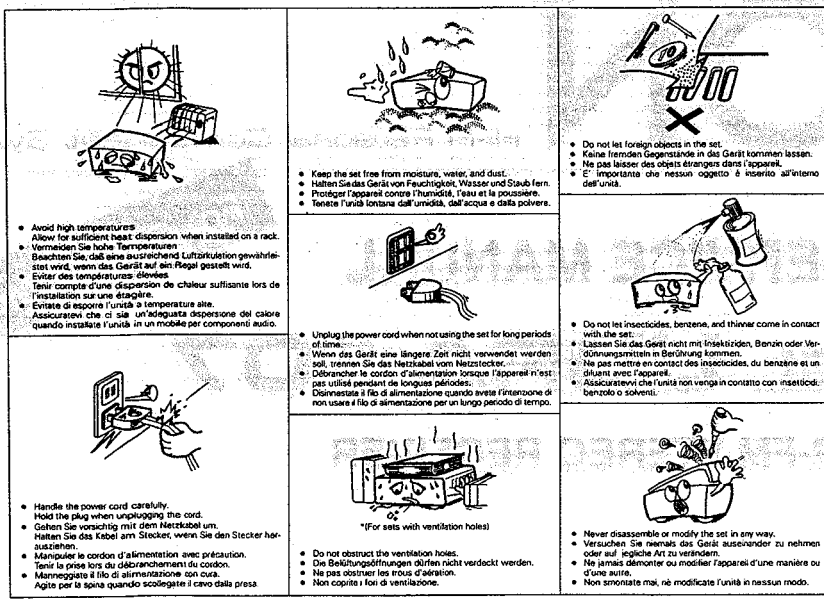
NOTE ON USE / HINWEISE ZUM GEBRAUCH / OBSERVATIONS RELATIVES A L'UTILISATION NOTE SULL'USO



- Avoid high temperatures. Allow for sufficient heat dispersion when installed on a rack.
- Vermeiden Sie hohe Temperaturen. Beachten Sie, daß eine ausreichend Luftzirkulation gewährleistet wird, wenn das Gerät auf ein Regal gestellt wird.
- Eviter des températures élevées. Tenir compte d'une dispersion de chaleur suffisante lors de l'installation sur une étagère.
- Evitate di esporre l'unità a temperature alte. Assicuratevi che ci sia un'adeguata dispersione del calore quando installate l'unità in un mobile per componenti audio.
- Handle the power cord carefully. Hold the plug when unplugging the cord.
- Gehen Sie vorsichtig mit dem Netzkabel um. Halten Sie das Kabel am Stecker, wenn Sie den Stecker herausziehen.
- Manipuler le cordon d'alimentation avec précaution. Tenir la prise lors du débranchement du cordon.
- Maneggiate il filo di alimentazione con cura. Agite per la spina quando scollegate il cavo dalla presa.
- Keep the set free from moisture, water, and dust.
- Halten Sie das Gerät von Feuchtigkeit, Wasser und Staub fern.
- Protéger l'appareil contre l'humidité, l'eau et la poussière.
- Tenete l'unità lontana dall'umidità, dall'acqua e dalla polvere.
- Unplug the power cord when not using the set for long periods of time.
- Wenn das Gerät eine längere Zeit nicht verwendet werden soll, trennen Sie das Netzkabel vom Netzstecker.
- Débrancher le cordon d'alimentation lorsque l'appareil n'est pas utilisé pendant de longues périodes.
- Disinnestate il filo di alimentazione quando avete l'intenzione di non usare il filo di alimentazione per un lungo periodo di tempo.
- *(For sets with ventilation holes)
- Do not obstruct the ventilation holes.
- Die Belüftungsöffnungen dürfen nicht verdeckt werden.
- Ne pas obstruer les trous d'aération.
- Non coprite i fori di ventilazione.
- Do not let foreign objects in the set.
- Keine fremden Gegenstände in das Gerät kommen lassen.
- Ne pas laisser des objets étrangers dans l'appareil.
- E' importante che nessun oggetto è inserito all'interno dell'unità.
- Do not let insecticides, benzene, and thinner come in contact with the set.
- Lassen Sie das Gerät nicht mit Insektiziden, Benzin oder Verdünnungsmitteln in Berührung kommen.
- Ne pas mettre en contact des insecticides, du benzène et un diluant avec l'appareil.
- Assicuratevvi che l'unità non venga in contatto con insetticidi, benzolo o solventi.
- Never disassemble or modify the set in any way.
- Versuchen Sie niemals das Gerät auseinander zu nehmen oder auf jegliche Art zu verändern.
- Ne jamais démonter ou modifier l'appareil d'une manière ou d'une autre.
- Non smontate mai, nè modificate l'unità in nessun modo.

CAUTION / VORSICHT / ATTENTION / AVVISO

- If the system should smoke or produce strange smells, immediately set the power switch to the STANDBY position, unplug the power cord, and contact your store of purchase.
- Sollte das Gerät Rauch produzieren oder eigenartig riechen, stellen Sie den Netzschalter sofort auf die Position STANDBY (Bereitschaft), ziehen Sie den Netzstecker heraus und kontaktieren Sie Ihren Händler.
- Si de la fumée sort de la chaine ou des odeurs bizarres, placer l'interrupteur d'alimentation immédiatement sur la position de veille (STANDBY), débrancher le cordon d'alimentation et contacter le distributeur.
- Qualora il sistema dovesse produrre del fumo o degli odori strani, collocate immediatamente l'interruttore di accensione nella posizione STANDBY, disinnestate il filo di alimentazione e rivolgetevi al negozio dell'acquisto.

"SERIAL NO. _____
PLEASE RECORD UNIT SERIAL NUMBER ATTACHED TO THE REAR OF THE CABINET FOR FUTURE REFERENCE"

SAFETY IMPORTANT

WARNING:
TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

● DECLARATION OF CONFORMITY
We declare under our sole responsibility that this product, to which this declaration relates, is in conformity with the following standards:
EN60065, EN55013, EN55020, EN60555-2 and EN60555-3.
Following the provisions of 73/23/EEC, 89/336/EEC and 93/68/EEC Directive.

● ÜBEREINSTIMMUNGSERKLÄRUNG
Wir erklären unter unserer Verantwortung, daß dieses Produkt, auf das sich diese Erklärung bezieht, den folgenden Standards entspricht:
EN60065, EN55013, EN55020, EN60555-2 und EN60555-3.
Entspricht den Verordnungen der Direktive 73/23/EEC, 89/336/EEC und 93/68/EEC.

● DECLARATION DE CONFORMITE
Nous déclarons sous notre seule responsabilité que l'appareil, auquel se réfère cette déclaration, est conforme aux standards suivants:
EN60065, EN55013, EN55020, EN60555-2 et EN60555-3.
D'après les dispositions de la Directive 73/23/EEC, 89/336/EEC et 93/68/EEC.

● DICHIARAZIONE DI CONFORMITÀ
Dichiariamo con piena responsabilità che questo prodotto, al quale la nostra dichiarazione si riferisce, è conforme alle seguenti normative:
EN60065, EN55013, EN55020, EN60555-2 e EN60555-3.
n conformità con le condizioni delle direttive 73/23/EEC, 89/336/EEC e 93/68/EEC.
QUESTO PRODOTTO E' CONFORME AL D.M. 28/08/95 N. 548

CLASS 1 LASER PRODUCT
LUOKAN 1 LASERLAITE
KLASS 1 LASERAPPARAT

ADVARSEL: USYNLIG LASERSTRÅLING VED ÅBNING, NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSAETTELSE FOR STRÅLING.

VAROITUS! LAITTEEN KÄYTTÄMINEN MUULLA KUIN TÄSSÄ KÄYTTÖOHJEESSA MAINITULLA TAVALLA SAATTAA ALTISTAA KÄYTTÄJÄN TURVALLISUUSLUOKAN 1 YLITTÄVÄLLE NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE.

VARNING– OM APPARATEN ANVÄNDS PÅ ANNAT SÄTT ÄN I DENNA BRUKSANVISNING SPECIFICERATS, KAN ANVÄNDAREN UTSÄTTAS FÖR OSYNLIG LASERSTRÅLNING SOM ÖVERSKRIDER GRÄNSEN FÖR LASERKLASS 1.

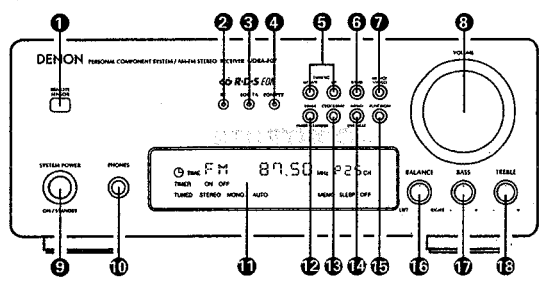
"CLASS 1 LASER PRODUCT"

FRONT PANEL / FRONTPLATTE / PANNEAU AVANT / PANNELLO ANTERIORE

AM–FM STEREO RECEIVER
AM–FM STEREO–RECEIVER
AMPLI–TUNER AM–FM
RICEVITORE STEREO AM–FM

See ENGLISH Page 6
Sehen Sie DEUTSCH Seite 30
Voir FRANÇAIS Page 54
Fate riferimento alla sezione ITALIANO alla pagina 78

UDRA-F07



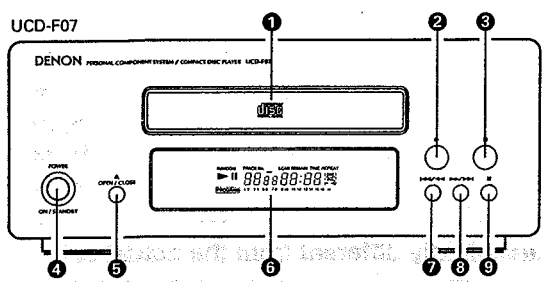
CD PLAYER
CD–SPIELER
LECTEUR CD
DISPLAY DELLA PIASTRA A CASSETTE

See ENGLISH Page 7
Sehen Sie DEUTSCH Seite 31
Voir FRANÇAIS Page 55
Fate riferimento alla sezione ITALIANO alla pagina 79

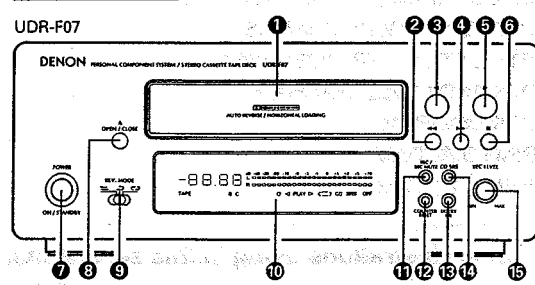
CASSETTE DECK
CASSETTENDECK
PLATINE CASSETTE
PIASTRA A CASSETTE

See ENGLISH Page 8
Sehen Sie DEUTSCH Seite 32
Voir FRANÇAIS Page 56
Fate riferimento alla sezione ITALIANO alla pagina 80

UCD-F07



UDR-F07



- As an aid to better understanding the operation method, the illustrations used in this manual may differ from the actual system.
- Als Hilfestellung zum besseren Verständnis der Betriebsmethode, erlauben wir uns den Hinweis, daß sich die Abbildungen in dieser Bedienungsanleitung leicht von dem aktuellen System unterscheiden.
- Pour faciliter la compréhension de la méthode de fonctionnement, les illustrations utilisées dans ce manuel peuvent être différentes de celles de la chaine réelle.
- Per rendere la spiegazione del metodo operativo più facile, le illustrazioni usate in questo libretto delle istruzioni possono differire dal sistema stesso.

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Check that the following parts are included in the package aside from the main unit:

- **UDRA-F07 (AM-FM stereo receiver)**
  - Remote control unit (RC-818) 1
  - R6P/AA batteries 2
  - Operating instructions 1
  - FM antenna 1
  - AM loop antenna 1
- **UCD-F07 (compact disc player)**
  - System connector cable 1
  - RCA pin-plug cord 1
- **UDR-F07 (cassette tape deck)**
  - System connector cable 1
  - RCA pin-plug cord 2

1 MAIN FEATURES

- **RDS compatible**
  Compatible with various RDS services, including program service name (PS), program type identification (PTY), traffic program identification (TP), clock time (CT), radio text message (RT) and enhanced other network (EON).
- **Quality power for high quality sound**
  40W + 40W (4 Ω/ohms, DIN) high quality amplifier and terminals for large speakers.
- **High sound quality, multi-function CD player**
  Edit function for automatically dividing the tracks on a CD for recording onto sides A and B of a tape.
- **Cassette deck with Dolby B, C and HX-Pro circuits**
  For playback and recording of high quality sound.
- **Two types of timers**
  Two timer settings can be made — everyday and sleep.
- **Easy-to-use remote control unit**
- **Auto on function**
  The power turns on automatically and playback begins when the play button on the CD player or the cassette deck or the tuner preset up/down buttons on the remote control unit are pressed.

2 BEFORE USING

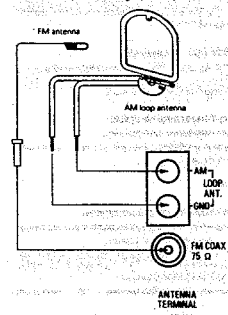
Read the following before using the system.

- **Before turning on the power**
  Check again that all connections are correct and that there are no problems with the connection cords. Be sure to unplug the power cord before connecting or disconnecting the connection cords.
- Humming may be produced if this system is set near a TV or other audio equipment. If this happens, try changing the position of the equipment or the connection cords.
- **Moving the system**
  Be sure to remove CDs before moving the system. If a CD is left in the CD player, it may be scratched.
  To prevent short-circuits or damage to the connection cords, always unplug the power cord and disconnect all connection cords to other audio equipment.
- **Condensation (dew)**
  Condensation (water droplets) may be produced on internal optical lenses or discs in the following cases:
  - Directly after a heater is turned on.
  - When the system is in a steamy or humid room.
  - When the system is moved abruptly from a cold place (room) to a warm room.
- **Should condensation occur:**
  The signals on the disc cannot be read and the system will not function properly. Remove the disc then let the system set with the power on. The condensation will evaporate in one hour or less, at which time the system will function normally.
- Note that some of the illustrations used for explanations in this manual may differ from the actual system.

3 CONNECTING THE INCLUDED ANTENNAS

Installing the FM indoor antenna

Tune in an FM station (see Page 10), set the antenna in a position in which distortion and noise is minimum, then fasten the tip of the antenna in this position using tape or a pin.



Connecting an FM outdoor antenna

If good reception cannot be achieved with the included FM antenna, use an FM outdoor antenna. Connect an F-shaped connector to the coaxial cable and connect the antenna to the FM COAX (75 Ω) terminal.

Selecting a place for the FM outdoor antenna

- Set the antenna so that it is pointing towards the broadcast station's transmitting antenna. Behind buildings or mountains, set the antenna in the position at which reception is best, and also try changing the direction of the antenna.
- Do not install the antenna under power lines.
  Doing so is extremely dangerous, as the power line could touch the antenna.
- Install the antenna away from roads or train tracks to avoid noise from cars or trains.
- Do not install the antenna too high, as it may be hit by lightning.

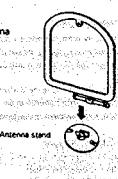
Installing the AM loop antenna

Tune in an AM station (see Page 10) and set the antenna in a position as far from the system as possible in which distortion and noise is minimum. In some cases it is best to invert the polarities. AM broadcasts cannot be received well if the loop antenna is not connected or if it is set close to metal objects.

Assembling the AM loop antenna

Assemble the included AM loop antenna as shown in the diagram.

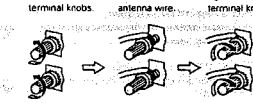
① Remove the clamp.
② Insert the AM loop antenna into the antenna stand.



Connecting the AM loop antenna

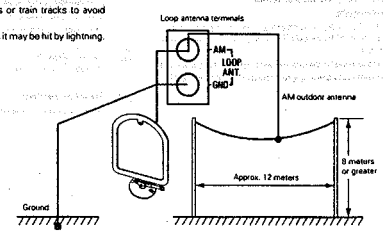
Connect the included AM loop antenna to the antenna terminals as shown in the diagram.

① Loosen the terminal knobs. ② Insert the antenna wire. ③ Tighten the terminal knobs.



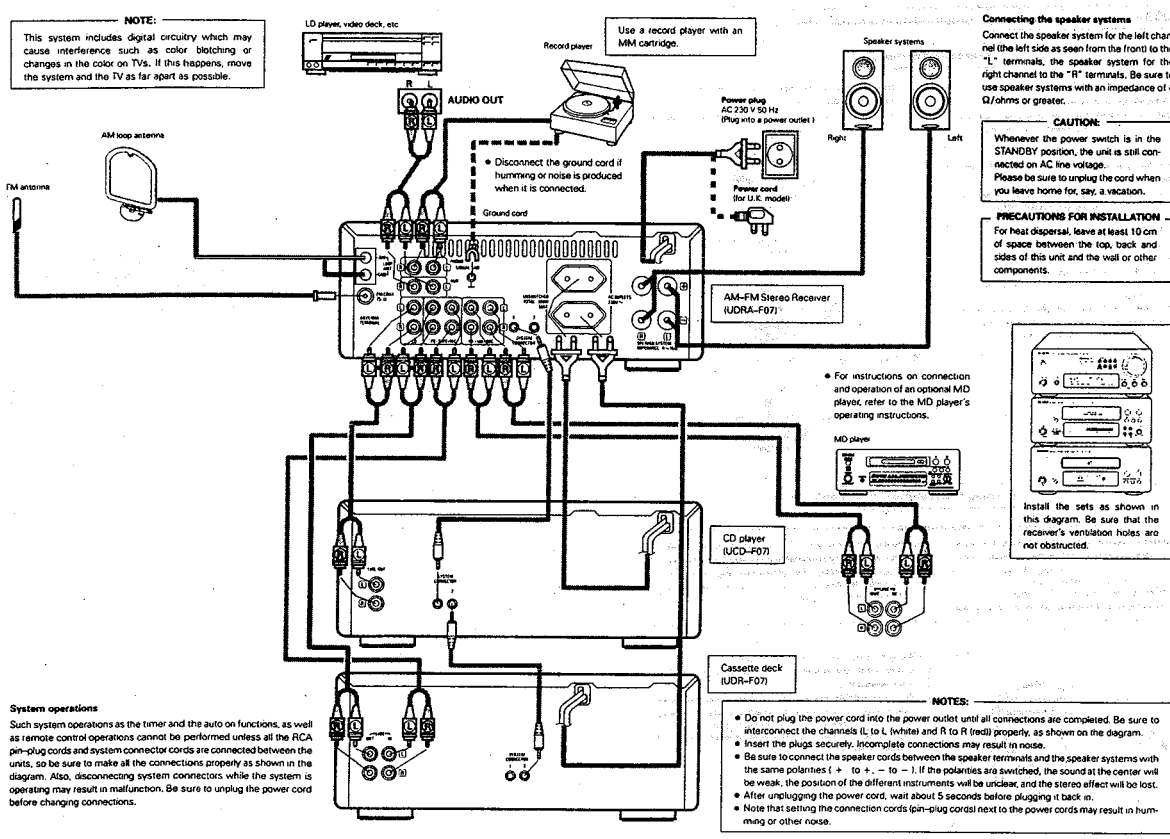
Installing an AM outdoor antenna

Connect the signal wire from the AM outdoor antenna to the antenna terminal. Be sure to ground the antenna and connect the ground wire to the GND terminal. Also be sure to connect the included AM loop antenna.



4 CONNECTIONS

NOTE:
This system includes digital circuitry which may cause interference such as color blotching or changes in the color on TVs. If this happens, move the system and the TV as far apart as possible.



Connecting the speaker systems

Connect the speaker system for the left channel (the left side as seen from the front) to the "L" terminals, the speaker system for the right channel to the "R" terminals. Be sure to use speaker systems with an impedance of 4 Ω/ohms or greater.

CAUTION:
Whenever the power switch is in the STANDBY position, the unit is still connected on AC line voltage.
Please be sure to unplug the cord when you leave home for, say, a vacation.

PRECAUTIONS FOR INSTALLATION
For heat dispersal, leave at least 10 cm of space between the top, back and sides of this unit and the wall or other components.

Install the sets as shown in this diagram. Be sure that the receiver's ventilation holes are not obstructed.

System operations

Such system operations as the timer and the auto on functions, as well as remote control operations cannot be performed unless all the RCA pin-plug cords and system connector cords are connected between the units, so be sure to make all the connections properly as shown in the diagram. Also, disconnecting system connectors while the system is operating may result in malfunction. Be sure to unplug the power cord before changing connections.

NOTES:

- Do not plug the power cord into the power outlet until all connections are completed. Be sure to interconnect the channels (L to L (white) and R to R (red)) properly, as shown on the diagram.
- Insert the plugs securely. Incomplete connections may result in noise.
- Be sure to connect the speaker cords between the speaker terminals and the speaker systems with the same polarities (+ to + , − to −). If the polarities are switched, the sound at the center will be weak, the position of the different instruments will be unclear, and the stereo effect will be lost.
- After unplugging the power cord, wait about 5 seconds before plugging it back in.
- Note that setting the connection cords (pin-plug cords) next to the power cords may result in humming or other noise.

5 PART NAMES, FUNCTIONS AND DISPLAYS

RECEIVER

❶ **REMOTE SENSOR**
When operating the remote control unit, point it at this sensor.

❷ **RT indicator**
This lights in green when a radio station offering an RT service is tuned in.
The indicator lights in red when the RT mode is selected.
When the RT message is displayed, the indicator flashes in green.

❸ **EON TA indicator**
This lights in green when an EON station with traffic announcements is being received.
When the EON TA mode is selected, the indicator lights in red.
The indicator flashes in green when another broadcast station in the same network is automatically tuned in and a traffic announcement is being received.

❹ **EON PTY indicator**
This lights in green when an EON station with PTY information is being received.
When the EON PTY mode is selected, the indicator lights in red.
The indicator flashes in green when another broadcast station in the same network is automatically tuned in and a broadcast of the desired program type is being received.

❺ **TUNING UP and DOWN buttons**
These buttons are used to select AM and FM stations and to set the clock and timer.

❻ **BAND (AM / FM) selector button**
The band switches between AM and FM each time this button is pressed.

❼ **MONO / STEREO selector button**
AUTO mode:
Use this mode to receive programs in stereo.
The sound and the indicators on the display automatically switch between monaural ("MONO") and stereo ("STEREO") according to whether the program is being broadcast in monaural or stereo.
MONO mode:
Use this mode to receive programs in monaural, regardless of whether they are being broadcast in monaural or stereo.
Set this mode if there is much noise or if the signals are weak when receiving stereo programs (when "AUTO" is lit).

❽ **VOLUME control**
Use this to adjust the overall volume.
The volume increases when the control is turned clockwise (↷) and decreases when it is turned counterclockwise (↶).

❾ **SYSTEM POWER switch**
This turns the power for the entire system on and off.
Press this once to turn the power on, then press again to set the power to the standby mode.

❿ **PHONES (headphones jack)**
Plug the headphones into this jack.
No sound is produced from the speakers when headphones are plugged in.

⓫ **Display**

⓬ **TIMER / TIMER STANDBY button**
Press this when setting the timer and to turn the timer on so that it operates at the set times.
When the button is pressed after the timer has been set, the timer standby mark (" ◷ ") appears on the display. Press again to turn the mark off.
The timer will not operate when the " ◷ " mark is off.

⓭ **CLOCK / DISPLAY selector button**
This button is used to switch the display between the reception frequency (function) and the clock.

⓮ **MEMO ENT / NEXT button**
This button is used to preset AM and FM stations and when setting the timer.

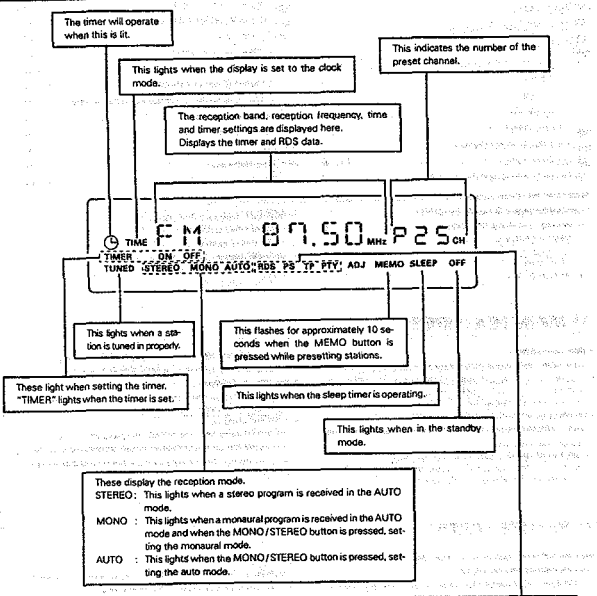
⓯ **FUNCTION (input) selector button**
Use this to select the input (function).
The input changes in the following order each time this button is pressed: CD, TAPE, TUNER, PHONO, MD and AUX. (The function changes automatically when the system's CD player or cassette deck is played or when a preset channel is recalled on the tuner.)

⓰ **BALANCE control**
Use this to adjust the balance of the volume between the left and right channels. When set at the center position, the volume is the same for the left and right channels.

⓱ **BASS control**
Use this to adjust the volume of the low frequencies.

⓲ **TREBLE control**
Use this to adjust the volume of the high frequencies.

RECEIVER DISPLAY



- RDS (Radio Data System)
  When the RDS button is pressed, a station is searched for and automatically tuned in, the "RDS" indicator lights and the station's name is displayed on the frequency display.
- PTY (Program Type)
  This indicator lights when the type of RDS program is specified.
- TP (Traffic Program)
  "TP" lights when an RDS traffic information station is received.
- PS (Program Service name)
  This lights when the station name is displayed.

NOTE:
- The timer standby mark (" ◷ ") does not light if the current time and the timer have not been set.

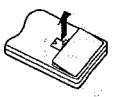
6 REMOTE CONTROL UNIT

The UDRA-F07 comes with a system remote control unit (RC-818).

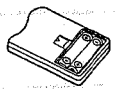
Inserting the batteries

NOTES:
- Use R6P (AA) batteries in this remote control unit.
- Replace the batteries with new ones approximately once each year, though this depends on how frequently the remote control unit is used.
- Replace the batteries with new ones earlier if the remote control unit does not operate even from a short distance.
- Insert the batteries in the proper + and – direction, following the marks in the battery compartment.
- Remove the batteries when not using the remote control unit for extended periods of time.
- To avoid damage and leakage:
  - Do not use a new battery with an old one.
  - Do not use two different types of batteries.
  - Do not short-circuit, take apart, heat or dispose of batteries in flames.
- If the batteries should leak, carefully wipe the fluid out of the battery compartment, then insert new batteries.

① Open the battery compartment cover on the back of the remote control unit.
Press the knob and open the cover in the direction of the arrow.



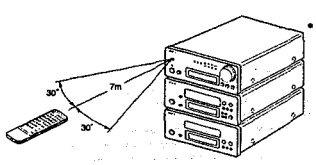
② Insert the two R6P (AA) batteries, following the + and – marks in the battery compartment.



③ Close the cover of the battery compartment.

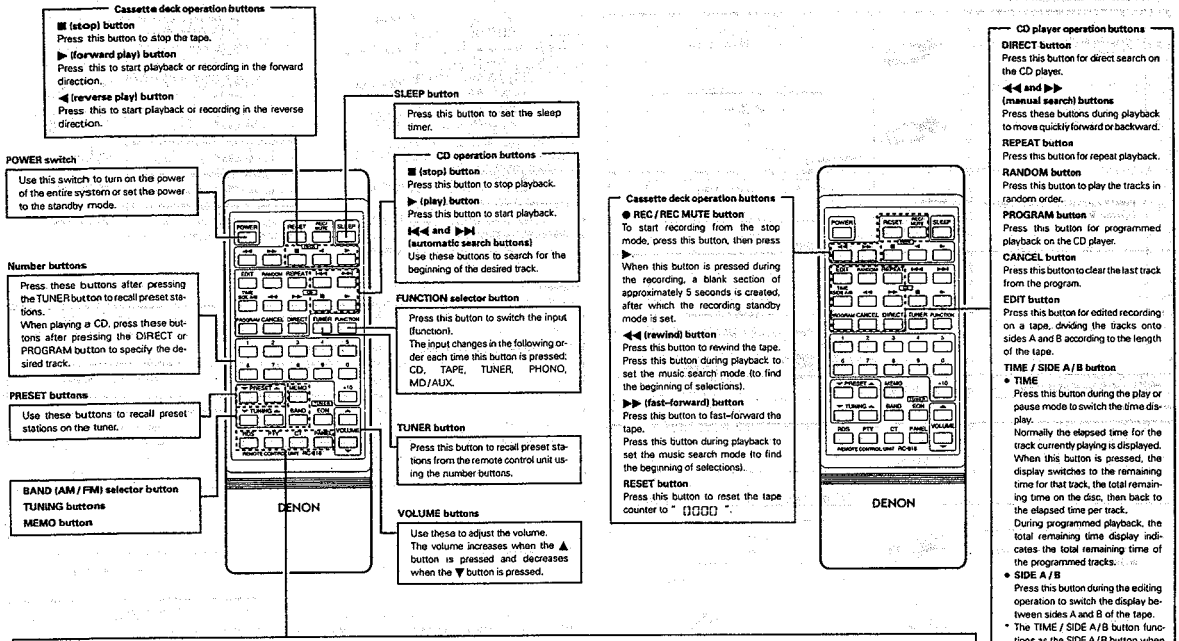
Using the Remote Control Unit

Cautions on Use
- The remote control unit may not operate if the remote sensor is exposed to direct sunlight or the strong light from a lighting fixture, or if there is an obstacle between the remote control unit and the remote sensor.
- Do not press buttons on the remote control unit and on the set at the same time. Doing so could result in malfunction.
- If the remote control unit is pointed away from the remote sensor during continuous operations (such as when turning the volume up or down), the operation will stop. If this happens, point the remote control unit at the remote sensor and press the button again.



- The remote sensor is located on the receiver. Point the remote control unit at the remote sensor as shown on the diagram when operating it.
  The remote control unit will operate from a direct distance of approximately 7 meters, but this distance will be shortened if obstacles are present or if operated at an angle.
  (The remote control unit will operate at an angle of up to 30° in either direction.)

Remote Control Unit Part Names and Functions

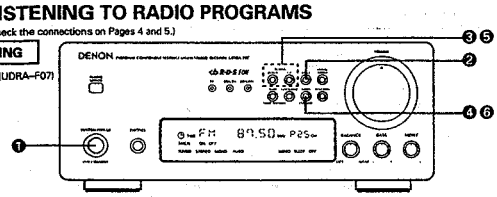


7 LISTENING TO RADIO PROGRAMS

(Check the connections on Pages 4 and 5.)

TUNING

Receiver (UDRA-F07)



Example: Tuning in FM 87.50 MHz
(AM stations are tuned in using the same procedure.)

1	Set the VOLUME control on the receiver to the minimum position, then press the SYSTEM POWER switch to turn on the power.	SYSTEM POWER	
2	Press the BAND button on the receiver to select the FM band.	BAND	FM 90.00
3	Use the TUNING UP and DOWN buttons to tune the frequency to 87.50. Once the frequency is tuned in, adjust the volume to the desired level using the VOLUME control.	TUNING DOWN UP	"This lights when a station is tuned in." FM 87.50

Auto Tuning
- When one of the TUNING buttons is pressed, the frequency changes in steps of 50kHz in the FM band, 9kHz in the AM band.
- If one of the TUNING buttons is held in for over 1 second, the frequency continues to change when the button is released (auto tuning) and stops when a station is tuned in. Tuning will not stop at stations whose reception is poor.
- To stop the auto tuning function, press the UP or DOWN button once.

Presetting AM and FM Stations

Example: Presetting FM 87.50 (currently tuned in) at preset number 3

4	Press the MEMO ENT/NEXT button. The MEMO indicator flashes for 10 seconds.	MEMO ENT/NEXT	"Flashes" FM 87.50 P1 "Flashes"
5	Use the UP and DOWN buttons to call out the number at which you want to preset the station (3), or simply press the corresponding number button "3" on the remote control unit.	TUNING DOWN UP	"P" flashes FM 87.50 P1 3 "Flashes"
6	Press the MEMO ENT/NEXT button while the MEMO indicator is flashing.	MEMO ENT/NEXT	"P3" lights FM 87.50 P3 3

Up to 30 AM or FM stations can be preset using this procedure.

Auto Preset Memory Function

(FM ONLY)
This function automatically stores the FM stations which can be received in the area in which the set is being used in the preset memory. Use this function so that the RDS functions can be used more effectively. Also note that the channel memories can be changed at will even after the preset stations have been stored with this function.

1	Connect the FM antenna and set it so that FM stations can be received.	Refer to page 4	
2	Press the POWER button to turn on the power while holding in the MEMO ENT/NEXT button.	SYSTEM POWER MEMO ENT/NEXT	AUTO "AUTO" is displayed and the MEMO indicator flashes during this operation.
3	Searching begins automatically, and stations are stored in the preset memory in order, beginning from channel 1 (The operation automatically stops once 40 stations have been set in the memory.)		FM 87.50 P1 When the operation is completed, the station stored at preset number 1 is tuned in.

NOTES:
- In addition to the reception frequency, the reception mode (monaural or auto) is also preset, so check the display when presetting stations.
- If a station is preset at a number where a station is already preset, the previous station is replaced with the new station.
- The preset memory is not cleared immediately when the power cord is unplugged, but is cleared if the cord is left unplugged for an extended period of time. If this happens, preset the stations again.

Listening to Preset Stations

The preset stations can be recalled using the number buttons on the remote control unit.
Also, if the following operation is performed when the system power is off, the power automatically turns on and the radio is played. (Auto on function)

Example: Listening to the station preset at number 3
(This operation is only possible from the remote control unit.)

1	Press the TUNER button on the remote control unit.		FM 87.50 P3 3
2	Press button "3" on the remote control unit.	❶ ❷	

Using the RDS functions

Receiving RDS broadcasts (FM only)

1	Press the BAND button and set the FM band.	BAND	FM 87.50
2	Press the RDS button once.	RDS	-RDS- (Flashes) "RDS" blinks
3	Press the AUTO TUNING UP (▲) or DOWN (▼) button.	▼TUNING▲	FM 87.50 (Flashes) "RDS" displayed
4	The station is tuned in.		"RDS" lights after 5 seconds of flashing. Once the station is tuned in, "RDS" flashes for 5 seconds and the program service name is displayed.

NOTE: If no RDS station is found, "NO PROG" is displayed.

PTY Search

1	Press the RDS button twice.	RDS	-PTY- (Flashes) ("PTY" and "RDS" flash, and "←PTY→" is displayed.)
2	Press the PTY button to select the type of program. (One of the 15 types listed below can be selected.)	PTY	NEWS (Flashes)
3	Press the AUTO TUNING UP (▲) or DOWN (▼) button.	▼TUNING▲	FM 87.50 (Flashes)
4	The station is tuned in.		"PTY" and "RDS" light after 5 seconds of flashing. Once the station is tuned in, "RDS" and "PTY" flash for 5 seconds and the program service name is displayed.

NOTE: If no program of the specified type is found, "NO PROG" is displayed.

Programs

NEWS	(News)	VARIED	(Varied)
AFFAIRS	(Current Affairs)	POP M	(Pop Music)
INFO	(Information)	ROCK M	(Rock Music)
SPORT	(Sport)	MOR M	(M.O.R. Music)
EDUCATE	(Education)	LIGHT M	(Light Classics)
DRAMA	(Drama)	CLASSICS	(Serious Classics)
CULTURE	(Culture)	OTHER M	(Other Music)
SCIENCE	(Science)		

TP Search

1	Press the RDS button 3 times.	RDS	-TP- (Flashes)
2	Press the AUTO TUNING UP (▲) or DOWN (▼) button.	▼TUNING▲	FM 87.50 (Flashes)
3	Broadcast reception.		"TP" and "RDS" light. Once the station is tuned in, "TP" and "RDS" light and the program service name is displayed.

NOTE: "NO PROG" is displayed when there is no traffic information broadcast station.

Receiving FM programs in stereo

- Press the MONO/STEREO selector button to turn on the "AUTO" indicator. When a program being broadcast in stereo is received, the "STEREO" indicator lights and the program is received in stereo.
- If reception is poor and there is much noise in the stereo signals, press the MONO/STEREO selector button to set the monaural mode.

NOTE:

- A humming sound may be heard when using a TV nearby while receiving AM programs. If this happens, move the system as far from the TV as possible.

Radio Text (RDS stations only)

1	When a radio station offering an RT service is tuned in, the RT indicator lights to indicate that the RT service can be received.		RT (Green) FM 87.50
2	To turn the RT mode on, press the PANEL button on the remote control unit until the RT indicator is lit in red. (Refer to page 9)	PANEL	RT (Red) WDR 3
3	When the station currently tuned in is offering a radio text message service the message scrolls on the display.		RT (Green) RADIO The RT indicator blinks in green.

- When the RT mode is turned on while an RDS radio station not offering an RT service is tuned in, "NO TEXT" flashes on the display, then the mode automatically switches to the PS mode.
- In the same way, the mode automatically switches to the PS mode when the RT service is finished. In this case, the mode automatically switches from the PS mode back to the RT mode when an RT broadcast is resumed.
- The RT mode cannot be set in the AM band or for FM stations not offering RDS broadcasts.
- To turn the RT mode off, press the PANEL button and switch to the desired display mode.

EON TA (RDS stations only)

When an RDS station is broadcasting RDS information on other stations within the same network and a traffic announcement begins on another station in the same network based on this information (EON = Enhanced Other Network), that network station is automatically tuned in. The previous station is tuned back in once the traffic announcement is over.

1	When EON TA function is not on while receiving EON TA information the EON TA indicator lights in green.		EON TA (Green) WDR 3 (STATION A)
2	Press the EON button once, then the TA indicator turns on in Red. (Refer to page 9)	EON	EON TA (Red) TA (STATION A)
3	When a traffic announcement starts, that station is automatically tuned in. The EON TA indicator blinks in green.		EON TA (Green) WDR 2 (STATION B)
4	When a traffic announcement is over, the previous station is tuned in. The EON TA indicator stops blinking and remains lit in green. The EON TA function turns off.		EON TA (Green) WDR 3 (STATION A)

- The EON TA function cannot be turned on if the station currently tuned in is not an RDS station. If you attempt to do so, "NO RDS" flashes on the display.
- If the RDS station currently tuned in does not provide an EON service, the EON TA function does turn on, but "NO EON" flashes on the display.
- To turn the EON TA mode off, press the EON button until the EON TA indicator turns off or lights in green, following the instructions on page 9. If the EON TA mode is turned off under the conditions in 3 on the table above, Station B continues to be tuned in.
- If the tuning button, preset button, band button, system power button or function button is pressed when this mode is set, the mode is turned off.
- "NO TP" appears on the display if no traffic announcement is being broadcast on the network of the station which is currently tuned in.

EON PTY (RDS stations only)

When an RDS station is broadcasting RDS information on other stations within the same network and a programme of the specified programme type (PTY) begins on a station in the same network, that network station is automatically tuned in. Use this function to tune in broadcasts of the desired programme type with priority.

1	When EON PTY function is not on while receiving EON PTY information, the EON PTY indicator lights in green.		EON PTY (Green) WDR 3 (STATION A)
2	Press the EON button twice, then the EON PTY indicator turns on in RED. (Refer to page 9)	EON	EON PTY (Red) PTY (STATION A)
3	The programme type flashes for approximately 5 seconds. During this time, press the PTY button to select the type of program. (Refer to page 11.)	PTY	EON PTY (Red) NEWS (STATION A)
4	Once the desired programme type is selected, set it with the MEMO button.		EON PTY (Red) POP M (STATION A) (The set programme type lights, and its display turns back on after several seconds. The programme type is set automatically if the MEMO button is not pressed within 5 seconds.)
5	When a programme of the specified programme type begins on a station in the same network, that station is tuned in. The EON PTY indicator blinks in green.		EON PTY (Green) WDR 2 (STATION B)
6	The previous station is tuned back in once a programme of a different programme type begins. The EON PTY indicator stops blinking, remaining lit in green. The EON PTY function also turns off.		EON PTY (Green) WDR 3 (STATION A)

- The EON PTY function cannot be turned on if the station currently tuned in is not an RDS station. If you attempt to do so, "NO RDS" flashes on the display.
- If the RDS station currently tuned in does not provide an EON service, the EON PTY function does turn on, but "NO EON" flashes on the display.
- To turn the EON PTY mode off, press the EON button until the EON PTY indicator turns off or lights in green, following the instructions on page 9. If the EON PTY mode is turned off under the conditions in 5 on the table above, Station B continues to be tuned in.
- If the tuning button, preset button, band button, system power button or function button is pressed when this mode is set, the mode is turned off.
- When using the EON TA function together with the EON PTY function, press the EON button once after making the settings on the above table. (Refer to page 9.)
- To reset the PTY after setting it, repeat the procedure from step 2.

NOTE:

1. Be sure to turn the EON TA and EON PTY modes off when recording programmes.
2. In the EON TA and EON PTY modes, if the station is switched from the current station to another station in the network but the signals of that network station are weak and it cannot be tuned in properly, "WEAK" is displayed and the original station is immediately tuned back in.
3. In the EON TA mode, the station does not switch to another station in the network if the current station is broadcasting a traffic announcement.
4. In the EON PTY mode, the station does not switch to another station in the network if the current station is broadcasting a programme of the same programme type.
5. Since the RDS services offered differ from station to station, some RDS functions may not operate for some stations, but this is not a malfunction.

8 USING THE TIMER

The time and timer functions are incorporated in the receiver.

Timer Settings

■Types of timer operations

TIMER : Use this to turn the power on and off at the same times every day.
SLEEP TIMER : Use this to set the power to turn off after 10 to 60 minutes, in steps of 10 minutes (operated from the remote control unit).

■Notes on timer settings

- Be sure to set the current time beforehand.
- To listen to or record a radio program ("air check") using the timer, be sure to preset the station beforehand. (Refer to "Presetting AM and FM Stations" on Page 10.)

Power Failures

Should there be a power failure or should the power cord be unplugged, the time display will flash at "0:00". If this happens, reset the current time.
Also check the timer and tuner presettings, and reset them if they have been cleared.

Checking the Settings

To check the timer settings, press the TIMER/TIMER STANDBY button for at least 3 seconds. (This can also be done when the tuner's power is off.) Next, press the ENTER/NEXT button repeatedly to display the timer start mode, the reception band and preset channel number when in the tuner mode, the on time and the off time. Press the ENTER/NEXT button once more to return to the current mode display.

Changing the Settings

Repeat the timer setting operation to erase the previous settings and set the new settings.

Clearing the Settings

Press the TIMER/TIMER STANDBY button for at least 3 seconds, then press it for at least 3 seconds again while "FUNC" is displayed to clear the timer settings.

Note on Setting the Timer

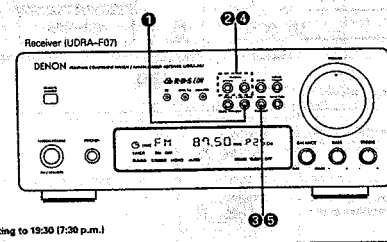
If the time set with the timer is reached while the system power is on, the operation switches to the operation set by the timer.

Turning the Timer Off

Press the TIMER/TIMER STANDBY button to turn the ◷ mark off.

Setting the Current Time

The time is displayed in the 24-hour mode.



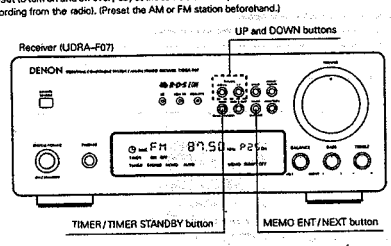
Example: Setting to 19:30 (7:30 p.m.)

1	Press the CLOCK/DISP. button for at least 3 seconds.	CLOCK/DISP.	0:00 The hours place flashes. (If the hours have already been set, that number flashes.)
2	Use the UP and DOWN buttons to set the hours.	TUNING DOWN UP	19:00 The hours place flashes.
3	Press the MEMO ENT/NEXT button.	MEMO ENT/NEXT	19:00 The minutes place flashes. (If the minutes have already been set, that number flashes.)
4	Use the UP and DOWN buttons to set the minutes.	TUNING DOWN UP	19:30 The minutes place flashes.
5	Press the MEMO ENT/NEXT button at the sound of a time service's chime. The time display stops flashing and the clock starts running.	MEMO ENT/NEXT	19:30 The display stops flashing and the clock starts running from 00 seconds.

- The current time can be set even when the power is off.
- If an RDS station offers a time service, the time can be set by pressing the CT button on the remote control unit while that station is tuned in.

Setting the Timer

The power can be set to turn on and off every day at the same time in any of five modes: tuner, CD, cassette deck, MD player (optional) and air check (recording from the radio). (Preset the AM or FM station beforehand.)



Example: Setting the tuner to turn on at 12:35, off at 12:56 (with FM 87.50 MHz preset at channel "3")

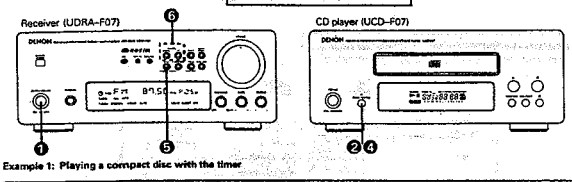
1	Press the SYSTEM POWER switch on the receiver to turn on the system's power.	SYSTEM POWER	FM 90.00 P 1 — Say that FM 90.00 MHz is tuned in at preset channel number "1".
2	Press the TIMER/TIMER STANDBY button for at least 3 seconds to set the timer setting mode.	TIMER TIMER STANDBY	FUNC
3	Use the UP and DOWN buttons to set the "TUNER" mode.	TUNING DOWN UP	TUNER
4	Press the MEMO ENT/NEXT button.	MEMO ENT/NEXT	Flashes — 87.50 3
5	Use the UP and DOWN buttons to set the preset channel number.	TUNING DOWN UP	
6	Press the MEMO ENT/NEXT button.	MEMO ENT/NEXT	0:00 — Flashes (If the timer has already been set, that number flashes.)
7	Use the UP and DOWN buttons to set the hours for the timer on time.	TUNING DOWN UP	12:00 — Flashes
8	Press the MEMO ENT/NEXT button.	MEMO ENT/NEXT	12:00 — Flashes (If the timer has already been set, that number flashes.)
9	Use the UP and DOWN buttons to set the minutes for the timer on time.	TUNING DOWN UP	12:35 — Flashes
10	Press the MEMO ENT/NEXT button.	MEMO ENT/NEXT	0:00 — Flashes
11	Use the UP and DOWN buttons to set the hours for the timer off time.	TUNING DOWN UP	12:00 — Flashes
12	Press the MEMO ENT/NEXT button.	MEMO ENT/NEXT	12:00 — Flashes (If the timer has already been set, that number flashes.)
13	Use the UP and DOWN buttons to set the minutes for the timer off time.	TUNING DOWN UP	12:56 — Flashes (If the timer has already been set, that number flashes.)
14	Press the MEMO ENT/NEXT button.	MEMO ENT/NEXT	FM 90.00 P 1 — The display returns to as it was before the timer setting mode was set.
15	Press the TIMER/TIMER STANDBY button.	TIMER TIMER STANDBY	Lights — FM 90.00 P 1
16	Press the SYSTEM POWER switch on the receiver to turn off the system's power.	SYSTEM POWER	10:15

If the ◷ mark is displayed after the TIMER/TIMER STANDBY button is pressed, the timer will operate at the same times every day. To turn the timer off, press the TIMER/TIMER STANDBY button again to turn the ◷ mark off.

NOTE:

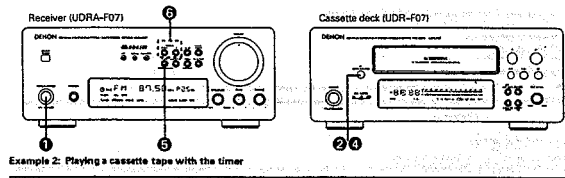
- The standby mark (" ◷ ") will not light if the current time is not set. If this is the case, set the current time, then press the TIMER/TIMER STANDBY button.

Various Timer Operations



Example 1: Playing a compact disc with the timer

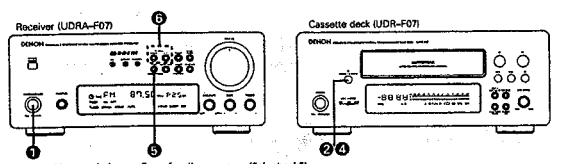
1	Press the SYSTEM POWER switch on the receiver to turn on the system's power.	SYSTEM POWER
2	Press the CD player's ⏏ OPEN/CLOSE button to open the disc tray.	OPEN/CLOSE
3	Load the disc in the disc tray. Refer to Page 21.	
4	Press the CD player's ⏏ OPEN/CLOSE button again to close the disc tray.	OPEN/CLOSE
5	Press the receiver's TIMER/TIMER STANDBY button for at least 3 seconds.	TIMER, TIMER STAND. — FUNC
6	Use the receiver's UP and DOWN buttons to set the "CD" mode.	TUNING DOWN UP — CD
7	Now follow steps 6 to 16 under "Setting the Timer" on Page 14.	



Example 2: Playing a cassette tape with the timer

1	Press the SYSTEM POWER switch on the receiver to turn on the system's power.	SYSTEM POWER
2	Press the cassette deck's ⏏ OPEN/CLOSE button to open the cassette tray.	OPEN/CLOSE
3	Load the cassette tape in the cassette tray. Refer to Page 17.	
4	Press the cassette deck's ⏏ OPEN/CLOSE button again to close the cassette tray.	OPEN/CLOSE
5	Press the receiver's TIMER/TIMER STANDBY button for at least 3 seconds.	TIMER, TIMER STAND. — FUNC
6	Use the receiver's UP and DOWN buttons to set the "TAPE" mode.	TUNING DOWN UP — TAPE
7	Now follow steps 6 to 16 under "Setting the Timer" on Page 14.	

- Check that the direction of tape travel, reverse mode and Dolby NR mode are set as desired.



Example 3: Unattended recording of radio programs ("air check")

1	Press the SYSTEM POWER switch on the receiver to turn on the system's power.	SYSTEM POWER
2	Press the cassette deck's ⏏ OPEN/CLOSE button to open the cassette tray	OPEN/CLOSE
3	Load the cassette tape in the cassette tray. Refer to Page 17.	
4	Press the cassette deck's ⏏ OPEN/CLOSE button again to close the cassette tray.	OPEN/CLOSE — • For instructions on setting the reverse mode and Dolby NR mode, refer to 2 and 3 on Page 20.
5	Press the receiver's TIMER/TIMER STANDBY button for at least 3 seconds.	TIMER, TIMER STAND. — FUNC
6	Use the receiver's UP and DOWN buttons to set the "AIRCH" mode.	TUNING DOWN UP — AIRCH
7	Now follow steps 6 to 16 under "Setting the Timer" on Page 14.	

- Check that the direction of tape travel and reverse mode are set as desired.
- Timer recording starts in the direction indicated on the display.
- Recording is not possible on the leader tape at the beginning of the cassette tape, so to avoid missing any of the program, we recommend setting the timer to approximately 1 minute before the program is scheduled to start.

Setting the Sleep Timer

With this function, the power can be set to turn off after 10 to 60 minutes, in steps of 10 minutes, using the remote control unit.

Example: Setting the power to turn off in 50 minutes
(This operation is only possible from the remote control unit.)

1	Tuner currently set to FM 87.50 MHz.	FM 87.50
2	Press the SLEEP button.	Flashes — 60
3	Press the SLEEP button again while the "SLEEP" indicator is flashing.	50
4	The previous display reappears after 5 seconds. The "SLEEP" indicator remains lit, indicating that the sleep timer is functioning.	FM 87.50

- The time is reset to "60" (60 minutes) if the SLEEP button is pressed again while the sleep timer is functioning.

Cancelling the Sleep Timer

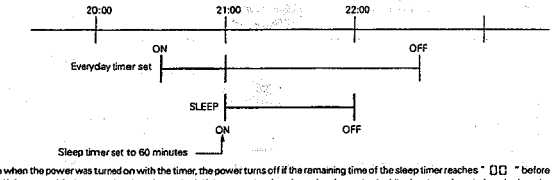
Press the SLEEP button repeatedly until the "SLEEP" indicator turns off.
The sleep timer is also cancelled if the receiver's SYSTEM POWER switch or the POWER switch on the remote control unit is pressed, turning the system power off.

NOTE:

- If the times set with the sleep and everyday timers overlap, the sleep timer has priority.

Order of priority of the sleep and everyday timers

The sleep timer has priority for the off time. (The system operates as indicated by the bold lines.)



Even when the power was turned on with the timer, the power turns off if the remaining time of the sleep timer reaches " 00 " before the off time set with the everyday timer is reached. If the everyday timer's on time is reached while the sleep timer is functioning, the everyday timer does not function.

16 TROUBLESHOOTING

Check the following once more before assuming there is a problem with the system.
6. Are connections proper?
7. Is the system being operated as explained in the operating instructions?
If the system does not seem to be operating properly, check as shown on the table below. If none of these checks apply to the problem, the system may be malfunctioning. Disconnect the power cord immediately and contact your store of purchase.

	Symptom	Cause	Countermeasure	Page
General	Power does not turn on when power switch is pressed.	• Power cord is not plugged into a power outlet.	• Plug the power cord securely into an outlet.	5
	No sound is produced from the speakers.	• VOLUME control is turned down. • Headphones are connected. • Speaker cords are not securely connected.	• Set the control to an appropriate position. • Disconnect the headphones. • Connect securely.	6 6 5
	No treble sound is produced, or the position of the instruments is unclear.	• Speaker polarities (⊕ and ⊖) are inverted.	• Connect the speaker cords properly.	5
	A source other than the desired one is heard.	• Function is not properly set.	• Set the desired function using the FUNCTION button.	6
Cassette deck	Recording does not start when REC/REC MUTE button is pressed.	• No cassette tape is loaded. • Accidental erasure protection tabs are broken off.	• Load a cassette tape. • Cover the tab holes with cellophane tape.	17 17
	Sound is broken or no sound is produced during recording and playback.	• Heads are dirty. • Cassette tape is defective.	• Clean the heads. • Replace the cassette tape.	26 –
	Humming sound is heard while playing cassette tapes.	• Noise from a TV. (Noise may be produced by some types of TVs.)	• Move the TV away from the system. • Turn the TV off.	4 –
	Wow (shaky sound) is heavy during recording or playback.	• Capstans or pinch rollers are dirty.	• Clean them.	26
Receiver	Hissing sound is heard in FM programs.	• Antenna direction is poor. • Signals from the broadcast station are weak.	• Change the direction of the antenna. • Install an outdoor antenna.	4 4
	Hissing sound is heard in AM programs.	• Noise from a TV or interference from a broadcast station.	• Turn the TV off. • Change the direction of the loop antenna. • Install an outdoor antenna.	– – 4
	Humming sound is heard in AM programs.	• Signals on the power cord are being modulated by the power source frequency	• Insert the power cord in the opposite direction. • Install an outdoor antenna.	– 4
CD player	Total number of tracks not displayed when disc is loaded.	• Disc is loaded upside-down. • Disc is dirty. • Disc is not of the specified type.	• Reload the disc. • Clean the disc. • Replace with a disc of the specified type.	21 26 –
	Nothing happens when operating buttons are pressed. Disc stops in the middle of a track and will not play properly.	• Disc is loaded upside-down. • Foreign object on disc tray. • Disc is dirty. • Disc is scratched.	• Reload the disc. • Remove the disc and the foreign object. • Clean the disc. • Replace with an unscratched disc.	21 21 26 –
	Sound is broken.	• Dirt, fingerprints, spittle, etc. on disc. • Disc is scratched. • Player is in an unstable place and vibrates strongly	• Clean the disc. • Replace with an unscratched disc. • Place the player in a stable place with no vibrations.	26 – –
	Humming sound is heard when disc is played.	• Signals on the power cord are being modulated by the power source frequency.	• Insert the power cord in the opposite direction.	–

• Protector circuit
The UDRA-F07 is equipped with a high speed protector circuit.
This circuit protects internal parts from being damaged by strong currents generated in the set should the set be operated when the speaker terminals are incompletely connected or short-circuited.
If this protector circuit is activated, a relay sound is produced, the output to the speakers is interrupted, and the function and power LEDs flash to indicate that there is a problem. If this should happen, unplug the power cord, check the speaker connections, then plug in the power cord and turn the power back on. After several seconds, a relay sound is heard and the set starts operating properly.

• The set may not operate properly due to such external influences as lightning or static electricity. If this happens, either turn off the power with the receiver's SYSTEM POWER switch or unplug the power cord, wait approximately 5 seconds, then plug the power cord back in.

SPECIFICATIONS

■ Receiver (UDRA–F07)

Practical maximum output:	40 W + 40 W (4 Ω / ohms, DIN)
Low frequency adjustment range:	100 Hz ±8 dB
High frequency adjustment range:	10 kHz ±8 dB
Reception frequency band:	FM: 87.50 MHz ~ 108.00 MHz AM: 522 kHz ~ 1611 kHz
Reception sensitivity:	FM: 1.5 µ / 75 Ω / ohms AM: 20 µV
FM stereo separation:	35 dB (1 kHz)
Audio input / output jacks:	CD input jacks, tape input / output jacks, MD input / output jacks, Aux input jacks. 6.3 mm headphones jack and phono input jacks
Power supply:	AC 230 V, 50 Hz
Power consumption:	110 W
Maximum external dimensions:	270 (W) × 112 (H) × 327 (D) mm (10–5 / 8" × 4–13 / 32" × 12–7 / 8") (including feet, controls and terminals)
Weight:	5.1 kg (11 lbs. 4 oz)

■ Remote control unit (RC–818)

Remote control system:	Infrared pulse
Number of buttons:	48
Power supply:	Two DC 1.5V R6P / AA batteries
Maximum external dimensions:	64 (W) × 176 (H) × 18 (D) mm (2–1 / 2" × 6–15 / 16" × 23 / 32")
Weight:	130 g (including batteries) (Approx. 4.6 oz)

* Maximum dimensions include controls, jacks, and covers.
(W) = width, (H) = height, (D) = depth

● For improvement purposes, specifications and functions are subject to change without advanced notice.

■ Dolby noise reduction and HX Pro headroom extension manufactured under license from Dolby Laboratories Licensing Corporation.
HX Pro originated by Bang & Olufsen.

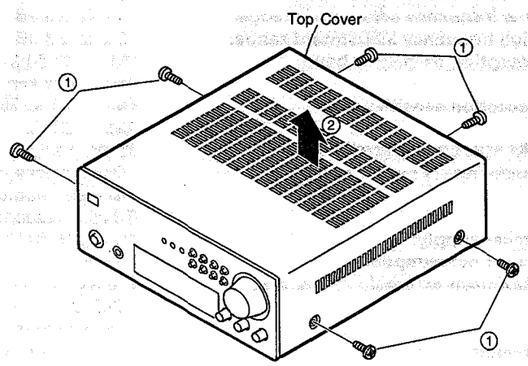
■ "DOLBY", the double–D symbol ⧈ and "HX PRO" are trademarks of Dolby Laboratories Licensing Corporation.

DISASSEMBLY

(To reassemble reverse disassembly)

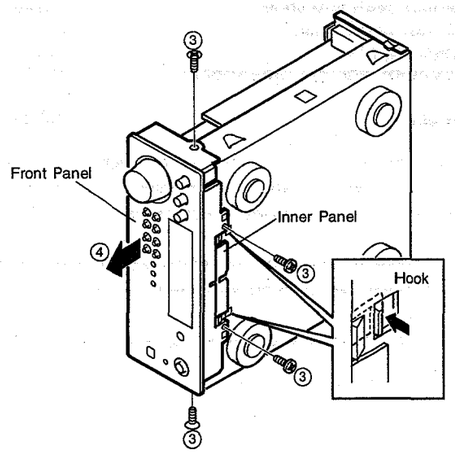
1. Top Cover

1) Remove 6 screws ① on the left, right and rear side.
2) Detach the Top Cover in arrow direction.



2. Front Panel

1) Remove 4 screws ③ on the left, right and bottom side.
2) Unfasten 2 hooks and detach the Front Panel with the Inner Panel in arrow direction ④.



3. Volume P.W.B. Unit

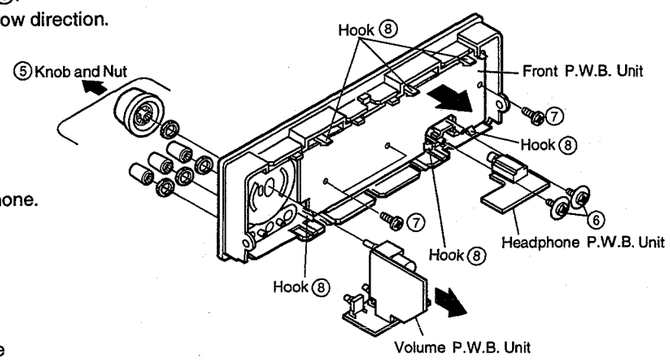
1) Pull out 4 knobs and remove 4 nuts ⑤.
2) Detach the Volume P.W.B. Unit in arrow direction.

4. Headphone P.W.B. Unit

Remove 2 screws ⑥ securing the Headphone.

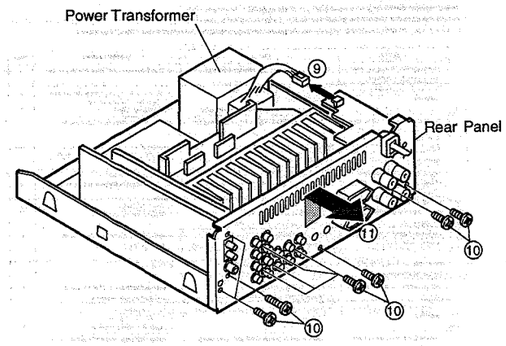
5. Front P.W.B. Unit

1) Remove 3 screws ⑦.
2) Unfasten 6 hooks ⑧, and pull out the Front P.W.B. Unit in arrow direction.



6. Rear Panel

1) Disconnect the connector ⑨ connecting with the Power Transformer.
2) Remove 10 screws ⑩ and detach the Rear Panel in arrow direction ⑪.

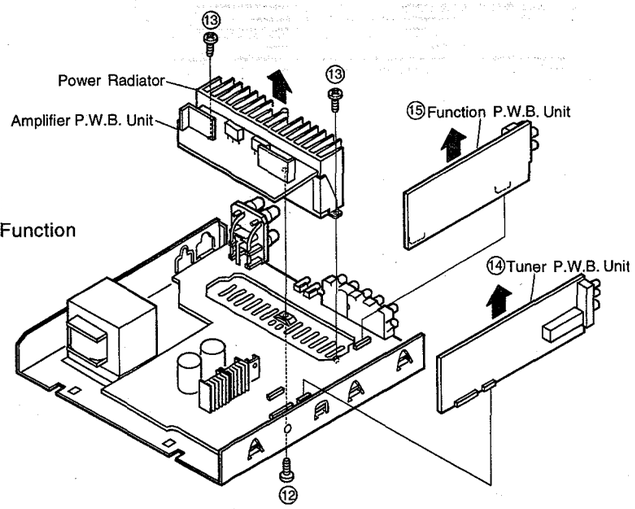


7. Amplifier P.W.B. Unit

1) Remove a screw ⑫ fixing the Power Radiator on the bottom.
2) Remove 2 screws ⑬ securing Power Radiator.

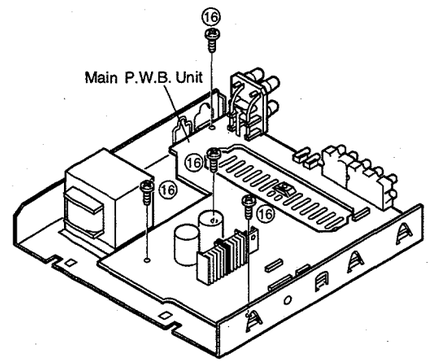
8. Tuner and Function P.W.B. Unit

Pull out the Tuner P.W.B. Unit ⑭ and the Function P.W.B. Unit ⑮ as shown in the figure.



9. Main P.W.B. Unit

Remove 4 screws ⑯ and detach the Main P.W.B. unit.

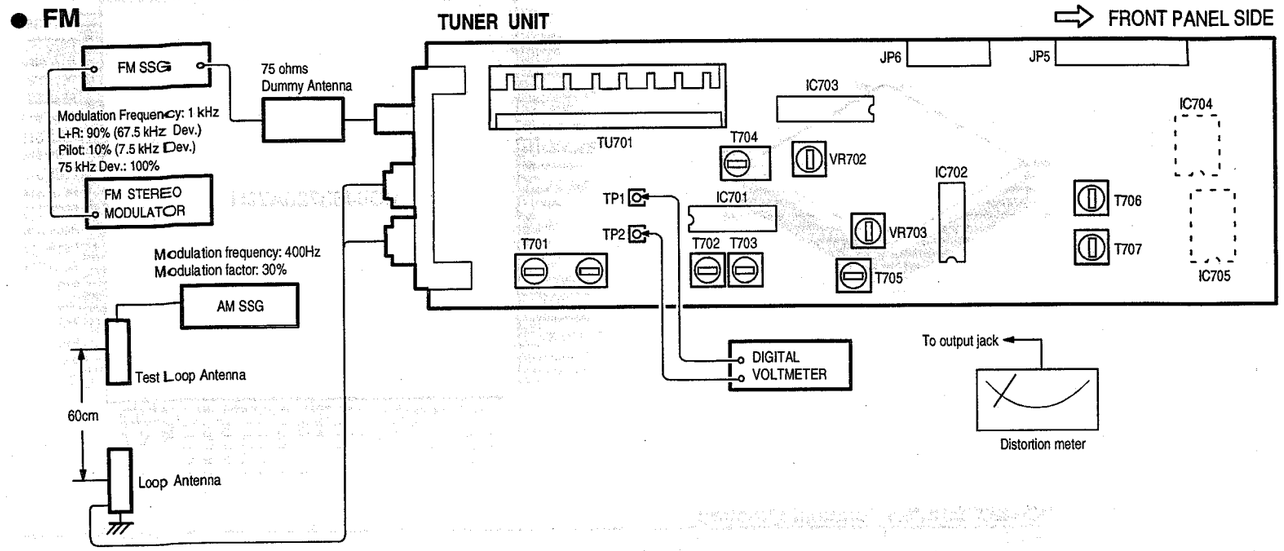


ADJUSTMENT

● TUNER SECTION

CONNECTION DIAGRAM OF MEASURING INSTRUMENTS

● FM



FM adjustment (BAND button: FM, MONO / AUTO button: AUTO, RF ATT button: OFF)

Step	Adjustment item	Tuning point (channel setting)	Input: Measuring instrument	Input: Frequency	Input: Input level	Input: Modulation	Input: Connection location	Output: Measuring instrument	Output: Connection location	Adjustment location	Setting value	Notes
1	FM DC balance	98.0 MHz	FM S.G.	98.0 MHz	60 dBμ	1 kHz 75 kHz DEV	FM antenna terminal	Digital volt meter	TP1 TP2	T702	0 ±50 mV	Perform with monaural modulation signal
2	Distortion	98.0 MHz	FM S.G.	98.0 MHz	60 dBμ	1 kHz 75 kHz DEV	FM antenna terminal	Distortion factor meter	Output jack	T703	Minimum distortion	Perform with monaural modulation signal
3	Repeat steps 1 and 2.											
4	Muting level	98.0 MHz	FM S.G.	98.0 MHz	19 dBμ	1 kHz 75 kHz DEV	FM antenna terminal	Check for the lighting of TUNED	Output jack	VR702	Input level 22 dBμ ±4 dB	(Level at which TUNED lights up)
5	Stereo separation	98.0 MHz	FM stereo modulator FM S.G.	98.0 MHz	60 dBμ	1 kHz L or R: 67.5 kHz DEV Pilot: 7.5 kHz DEV	FM antenna terminal	VTVM. Oscilloscope	Output jack	VR703	Minimum R ch Output	Perform with L ch. Input of FM stereo modulator

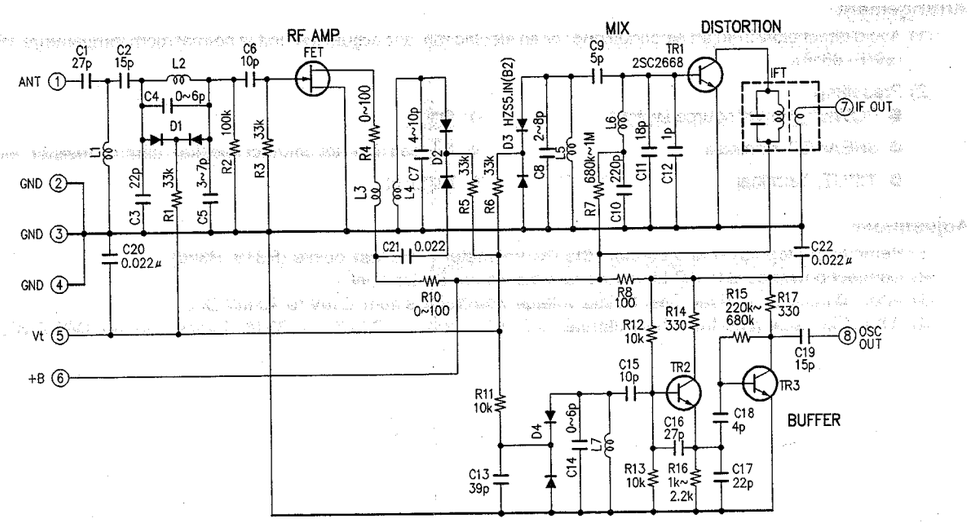
● AM

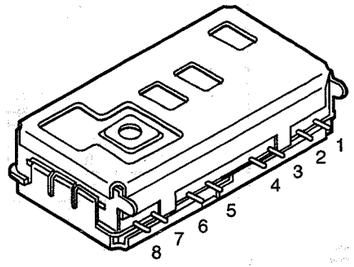
AM adjustment (BAND button: AM)

Note: The AM IFT and MW ANT.-OSC. coil are adjusted individually and normally do not require adjustment.

1	IF	Clear frequency (without a broadcast)	AM IF sweep	455 kHz	Level at which AGC is not applied	—	AM antenna terminal	Oscilloscope	⊕IC701 Output terminal Pin ⑭ ⊖Q716 (Base)	T704	Waveform maximum and symmetry	
2	Band edge	522 kHz	—	—	—	—	—	Digital voltmeter	⊕Q714(collector)	T701 Black	1.2V±0.2V	
		1611 kHz							⊖GND	—	Approx. 7.5V	No place to adjust
3	Tracking	603 kHz	AM S.G.	603 kHz	Level at which AGC is not applied	400Hz 30%	Loop antenna	VTVM	Output terminal	T701 Red	maximum output	

FRONT END





External Terminals

1. ANT
2. GND
3. GND
4. GND
5. Vt
6. +B
7. IF OUT
8. OSC OUT

● AUDIO SECTION

Measuring Instruments Required for the adjustments

● DC Voltmeter

Arrangement

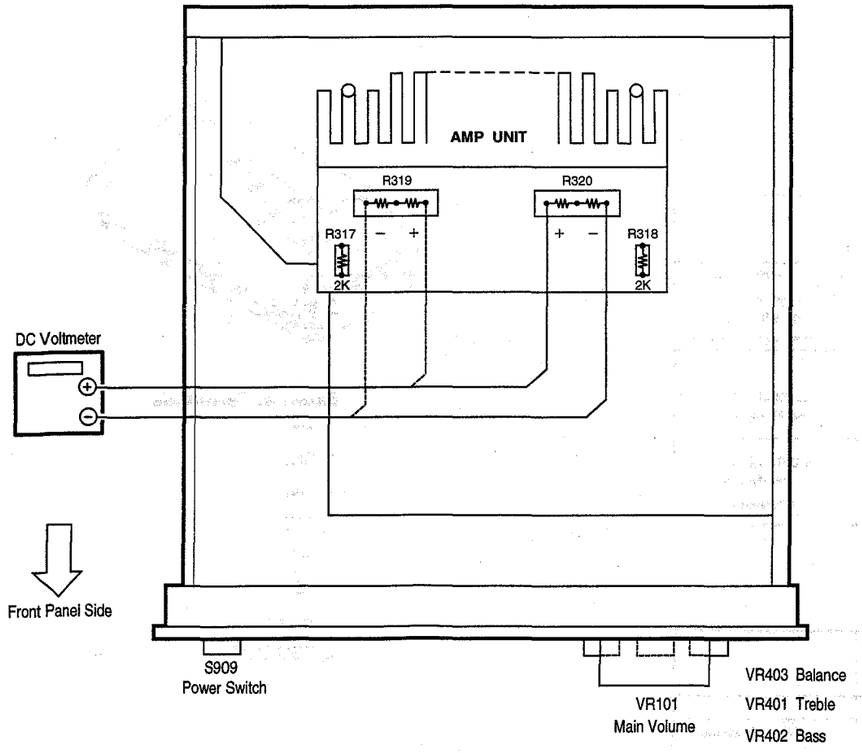
(1) Avoid direct blow from an air conditioner or an electric fan, and adjust the unit at normal room temperature 15°C~30°C. (59°F~86°F).

(2) Presetting

- POWER (Power source switch) → ON
- SPEAKER terminals → No load (Do not connect speaker, dummy resistor, etc.)
- INPUT, Terminal → No input

Adjustment

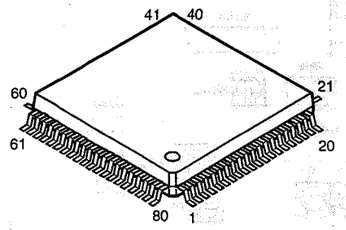
(1) Remove the top cover and connect the DC Voltmeter to the test points (R319, R320).
(2) Connect power cord to AC Line, and turn the Power Switch "ON".
(3) After 10 minute, read the Test Points voltage whether it is from 2 mV to 40 mV DC.
(4) When the value read from the voltmeter is 2 mV or less, cut R317 and R318 (2 kohm) on the AMP P.W.B. unit.

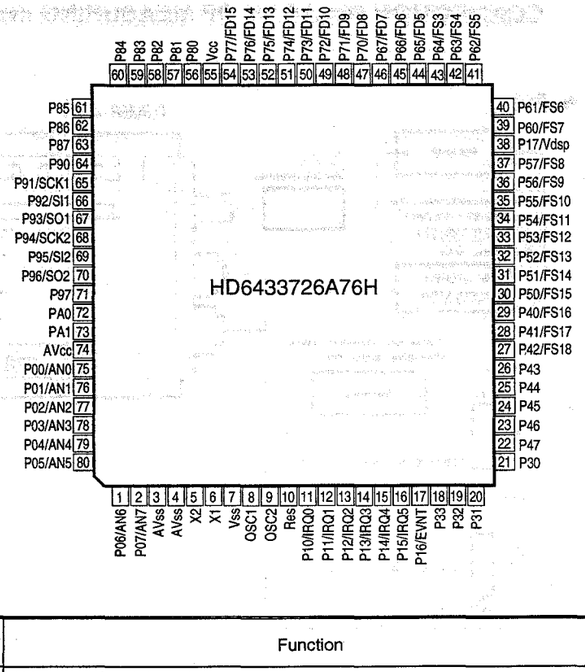


SEMICONDUCTORS

● IC's

HD6433726A76H (IC901)



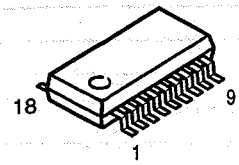


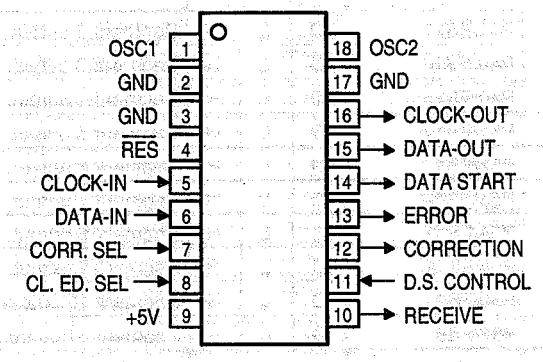
HD6433726A76H Terminal Function

Pin No.	Symbol	Port Name	I/O	INI	ACT	Function
1	$\overline{\text{AM Stereo}}$	P60/AN6	I	–	L	AM stereo signal detection.
2	$\overline{\text{Tuned In}}$	P07/AN7	I	L	H	– FM/AM tuning signal input.
3	GND	AVss	–	–	–	Analog ground.
4	GND	Test	–	–	–	
5	Sub Xtal	X2	O	–	–	Sub Xtal drive.
6	Sub Xtal	X1	I	–	–	Sub Xtal input.
7	Vss	Vss	–	–	–	Ground.
8	OSC1	OSC1	O	–	–	8.38 MHz Xtal out.
9	OSC2	OSC2	I	–	–	8.38 MHz Xtal in.
10	$\overline{\text{Reset}}$	Res	I	–	L	Reset input.
11	$\overline{\text{Remocon}}$	P10/IRQ0	I	–	L	Remote control signal in.
12	50/60	P11/IRQ1	I	–	L	50/60 Hz AC input.
13	$\overline{\text{Protect}}$	P12/IRQ2	I	–	L	*Overcurrent detection signal input.*
14	$\overline{\text{RDS Start}}$	P13/IRQ3	I	–	L	RDS signal start detection.
15	$\overline{\text{RXD}}$	P14/IRQ4	I	–	L	Denon Bus data input.
16	$\overline{\text{Mute}}$	P15/IRQ5	O	H	L	Speaker relay off.
17	GND	P16/EVNT	I	–	–	Not used.
18	N.C.	P33	O	L	L	No connection.
19	RT Gr LED	P32	O	L	H	RT green LED.
20	TA Gr LED	P31	O	L	H	TA green LED.
21	PTY Gr LED	P30	O	L	H	PTY green LED.
22	RT Rd LED	P47	O	L	H	RT red LED.
23	TA Rd LED	P46	O	L	H	TA red LED.
24	RTY Rd LED	P45	O	L	H	PTY red LED.
25	Diode 1	P44	I	–	H	Setting return input 1.
26	Diode 2	P43	I	–	H	Setting return input 2.
27	Seg 1	P42/FS18	O	L	H	Segment 1 output.

Pin No.	Symbol	Port Name	I/O	INI	ACT	Function
28	Seg 2	P41/FS17	O	L	H	Segment 2 output.
29	Seg 3	P40/FS16	O	L	H	Segment 3 output.
30	Seg 4	P50/FS15	O	L	H	Segment 4 output.
31	Seg 5	P51/FS14	O	L	H	Segment 5 output.
32	Seg 6	P52/FS13	O	L	H	Segment 6 output.
33	Seg 7	P53/FS12	O	L	H	Segment 7 output.
34	Seg 8	P54/FS11	O	L	H	Segment 8 output.
35	Seg 9	P55/FS10	O	L	H	Segment 9 output.
36	Seg 10	P56/FS9	O	L	H	Segment 10 output.
37	Seg 11	P57/FS8	O	L	H	Segment 11 output.
38	Vdisp	P17/Vdsp	–	–	–	High B voltage.
39	Seg 12	P60/FS7	O	L	H	Segment 12 output.
40	Seg 13	P61/FS6	O	L	H	Segment 13 output.
41	Seg 14	P62/FS5	O	L	H	Segment 14 output.
42	Seg 15	P63/FS4	O	L	H	Segment 15 output.
43	Seg 16	P64/FS3	O	L	H	Segment 16 output.
44	Dig 11	P65/FD5	O	L	H	Digit 11 output.
45	Dig 10	P66/FD6	O	L	H	Digit 10 output.
46	Dig 9	P67/FD7	O	L	H	Digit 9 output.
47	Dig 8	P70/FD8	O	L	H	Digit 8 output.
48	Dig 7	P71/FD9	O	L	H	Digit 7 output.
49	Dig 6	P72/FD10	O	L	H	Digit 6 output.
50	Dig 5	P73/FD11	O	L	H	Digit 5 output.
51	Dig 4	P74/FD12	O	L	H	Digit 4 output.
52	Dig 3	P75/FD13	O	L	H	Digit 3 output.
53	Dig 2	P76/FD14	O	L	H	Digit 2 output.
54	Dig 1	P77/FD15	O	L	H	Digit 1 output.
55	Vcc	Vcc	–	–	–	5V.
56	Volume Dwn	P80	O	H	H	Master volume down.
57	Volume Up	P81	O	H	H	Master volume up.
58	$\overline{\text{Power}}$	P82	O	L	L	Amplifier circuit power on.
59	$\overline{\text{TU Mute}}$	P83	O	H	L	Tuner audio mute.
60	$\overline{\text{Auto/Mono}}$	P84	O	H	–	FM Auto/Mono setting.
61	$\overline{\text{Ant Sns}}$	P85	O	L	H	Antenna sensitivity reduction.
62	$\overline{\text{SDB}}$	P86	O	L	H	Super Dynamic Bass.
63	$\overline{\text{Sel EEROM}}$	P87	O	L	H	Select SCI to EEROM.
64	PLL CE	P90	O	L	H	PLL serial data selection output.
65	Bus Clock	P91/SCK1	O	H	–	Denon Bus clock.
66	Bus Data In	P92/SI1	I	–	–	Denon Bus data input.
67	Bus Data Out	P93/SO1	O	H	–	Denon Bus data output.
68	RDS Clock	P97/SCK2	O	H	–	RDS data fetch clock input, PLL control clock output, LC7821 clock output.
69	RDS Data	P95/SI2	I	H	–	RDS serial data input.
70	PLL Data	P96/SO2	O	H	–	PLL serial data output, LC7821 serial data output.
71	$\overline{\text{RDS Res}}$	P97	O	H	L	LC7070 reset output.
72	PLL STRQ	PA0	O	L	H	IF count operation request output.
73	LC7821CE	PA1	O	L	H	LC7821 chip enable.
74	AVcc	AVcc	–	–	–	Analog 5 V power supply.
75	Key AD0	P00/AN0	I	–	–	Analog key input 0.
76	Key AD1	P01/AN1	I	–	–	Analog key input 1.
77	PWB Test	P02/AN2	I	–	–	Board check at 5 V.
78	$\overline{\text{Stereo In}}$	P03/AN3	I	–	L	FM stereo demodulation detection.
79	$\overline{\text{Signal In}}$	P04/AN4	I	–	L	RF signal detection signal input.
80	$\overline{\text{Stop In}}$	P05/AN5	I	–	L	IF count tuning detection.

LC7074M (IC705)

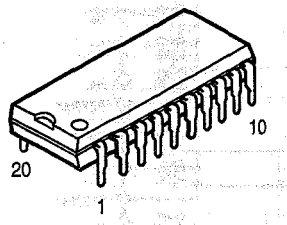


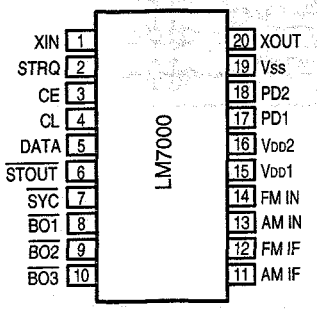


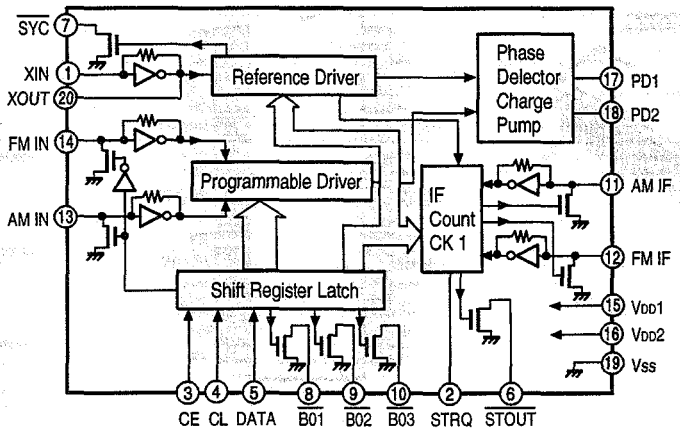
LC7074M Terminal Function

Pin No.	Symbol	I/O	INI	Function
1	OSC1	I	–	• 4 MHz ceramic oscillator connection.
2	GND	–	–	• Ground
3	GND	–	–	• Ground
4	$\overline{\text{RES}}$	I	–	• System reset input. • Reset and restart is accomplished by inputting the low level for 4 or more cycles.
5	CLOCK IN	I	H	• RDS LA2230 series demodulation clock input.
6	DATA IN	I	H	• RDS LA2230 serial demodulation data input.
7	CORR. SEL	I	H	• Error correction on/off selection input. • Sets the IC to correct errors in the RDS demodulation data or to output the data without correction. When input is 0 : No corrections are made When input is 1 : Corrections are executed
8	CL. ED. SEL	I	H	• Serial data clock polarity selection input. When input is 0 : Serial data output is enabled at the rise of output clock. (Serial data output changes at the fall of the output clock.) When input is 1 : Serial data output is enabled at the fall of the output clock. (Serial data output changes at the rise of the output clock.) **Note:** Set at the time of $\overline{\text{RES}}$ input.
9	+5V	–	H	• Power supply
10	RECEIVE (NC)	O	H	• Output during RDS data reception. • After the completion of sync detection, there is a low-level output while the serial data is being output. There is a high-level output at other times. • Open drain output.
11	D.S. CONTROL	I	H	• Block data start signal control input. When input is 0 : Data start signal is output for all blocks. When input is 1 : Data start signal is output for only the second block.
12	CORRECTION (NC)	O	H	• Output without error correction. • There is a low level output when the output data of the serial data output have been corrected when correction is not possible. There is a high-level output when correction have not been applied. • Open drain output.
13	ERROR (NC)	O	H	• Presence error output. • There is a low-level output when the output data of the serial data output has an error and correction is not possible. There is a high-level output when there is no error or when the error has been corrected. • Open drain output.
14	DATA START	O	H	• Block data start signal of the serial data output. Output with pull-up resistor.
15	DATA OUT	O	H	• Data output of the serial data output. Output with pull-up resistor.
16	CLOCK OUT	O	H	• Clock output of the serial data output. Output with pull-up resistor.
17	GND	–	–	• Ground
18	OSC2	O	–	• 4 MHz ceramic oscillator connection.

LM7000 (IC703)



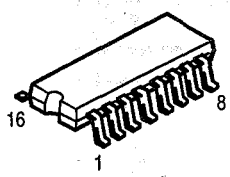


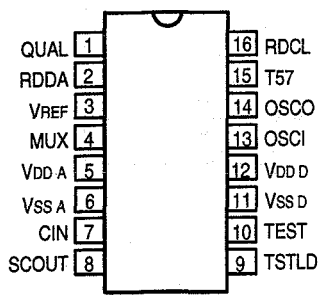


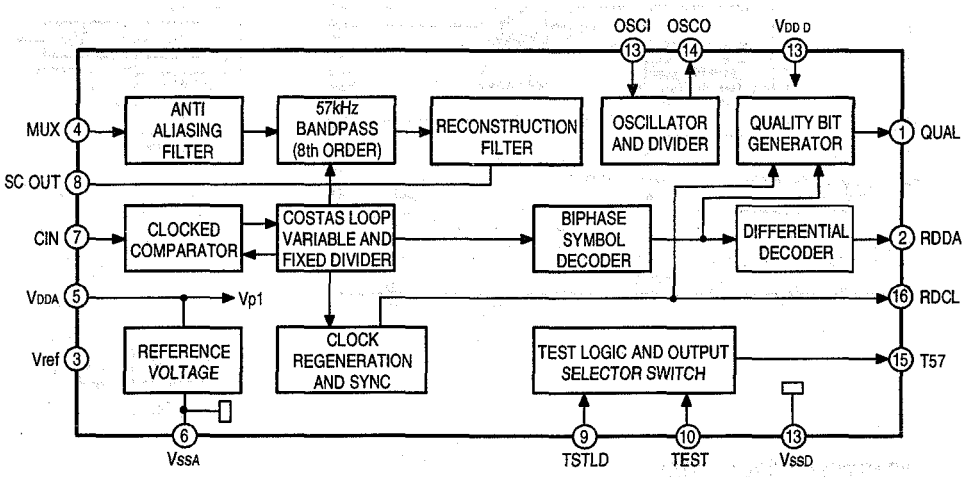
Pin Description

SYC	: Clock (400kHz) for the controller
XIN, XOUT	: X'tal oscillator (7.2MHz) with built-in feedback resistor
FM IN, AM IN	: Local oscillator signal input
CE, CL, DATA	: Data input
B01, B02, B03	: Band data output, B01 can be set as the time base output (8Hz)
STRQ	: IF counter request input
STOUT	: Auto research stop signal output
VDD1, VDD2, Vss	: Power supply (VDD2 is back-up power supply)
AMIF, FMIF	: IF signal input
PD1, PD2	: Charge pump output

SAA6579T (IC704)



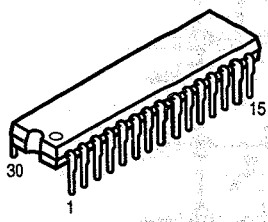


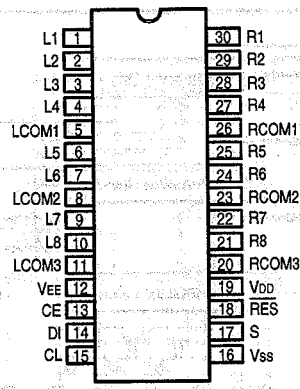


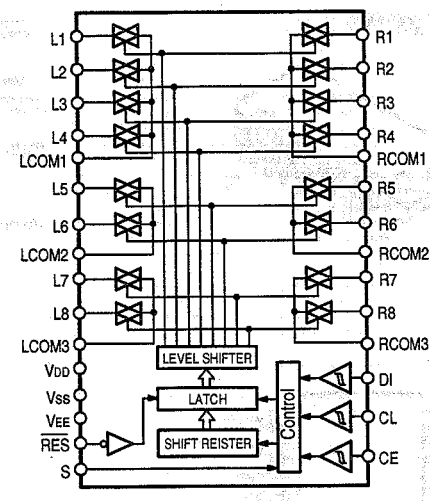
SAA6579T Terminal Function

Pin No.	Symbol	Function
1	QUAL	Quality indication output.
2	RDDA	RDS data output.
3	Vref	Reference voltage output (0.5 VDD A).
4	MUX	Multiplex signal input.
5	VDD A	+5V power supply for analog part.
6	VSS A	Ground for analog part (0V).
7	CIN	Subcarrier input to comparator.
8	SCOUT	Subcarrier ouput of reconstruction filter.
9	TSTLD	Test control.
10	TEST	Test enable.
11	VSS D	Ground for digital part (0V).
12	VDD D	+5V power supply for digital part.
13	OSCI	Oscillator input.
14	OSCO	Oscillator output.
15	T57	57kHz clock signal output.
16	RDCL	RDS clock output.

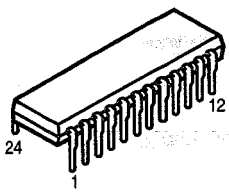
LC7821 (IC202)

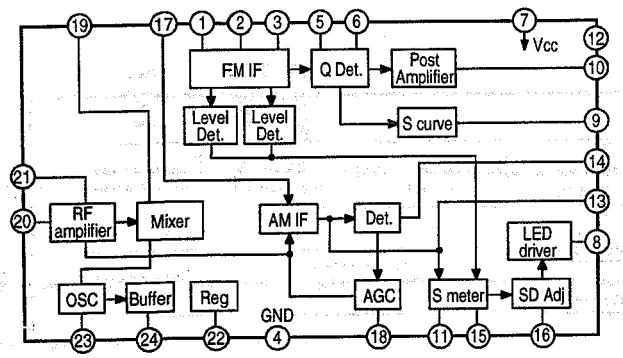




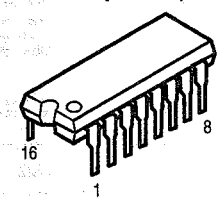


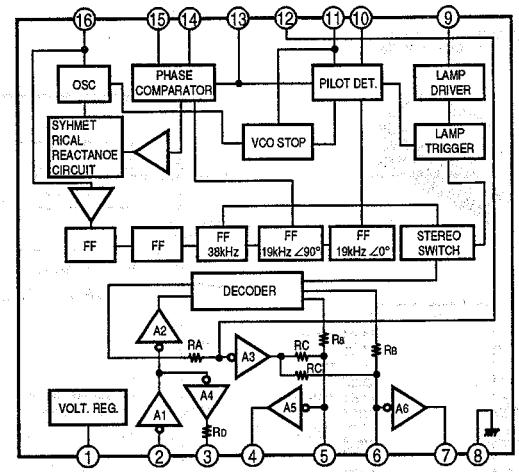
LA1267S (IC701)



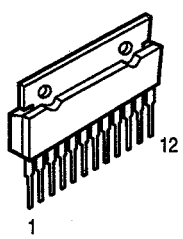


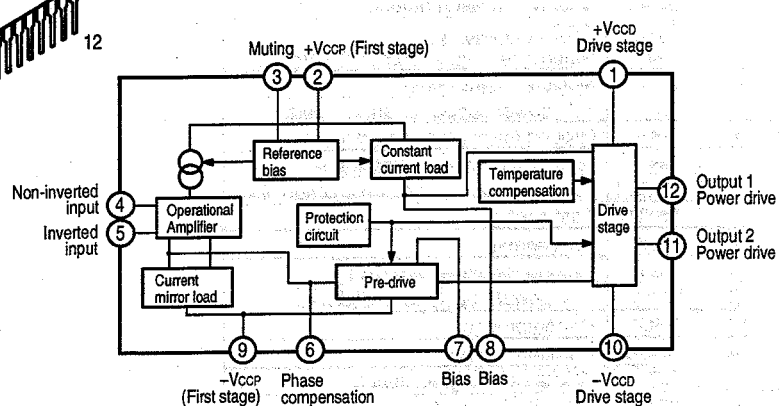
LA3410 (IC702)





µPC1225H (IC301, 302)

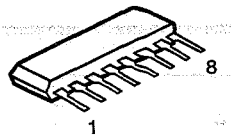


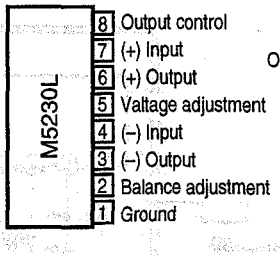


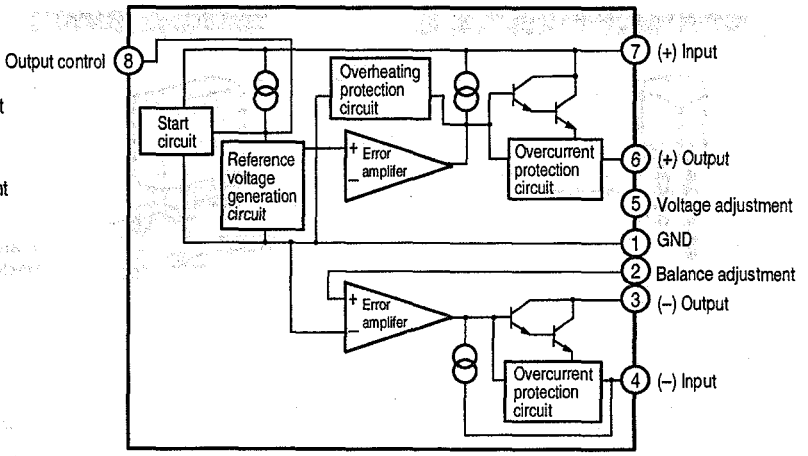
µPC1225H Terminal Function

Pin No.	Function
1	+VCCD (drive stage power supply)
2	+VCCP (pre-drive stage power supply)
3	MUTING
4	INPUT (non-inverting)
5	INPUT (inverting)
6	PHASE COMP
7	BIAS
8	BIAS
9	–VCCP (pre-drive stage power supply)
10	–VCCD (drive stage power supply)
11	LOWER OUTPUT
12	UPPER OUTPUT

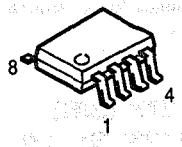
M5230L (IC4)

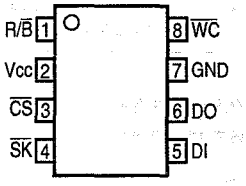






XL904F (IC902)

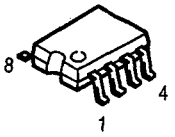


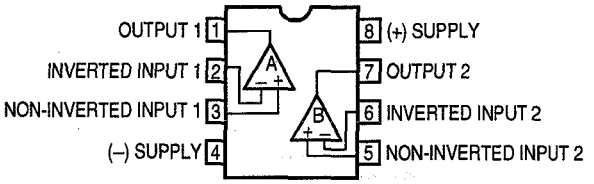


XL904F Terminal Function

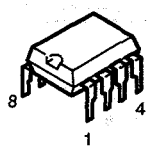
Pin No.	Pin Name	I/O	Function
1	R/B	O	READY, BUSY status signal output
2	Vcc	–	Connected to the power supply
3	CS	I	Chip select input
4	SK	I	Serial data clock input
5	DI	I	Operation code, address, and serial data input
6	DO	O	Serial data output
7	GND	–	Reference voltage of all inputs and outputs; 0 V
8	WC	I	Write control input

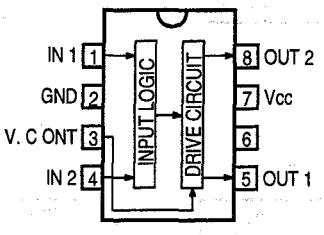
NJM4565MD (IC101, 201, 203)
NJM2068MD (IC302, 303)



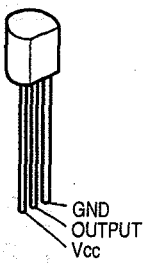


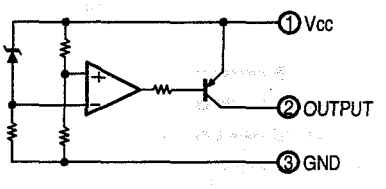
LB1639 (IC102)





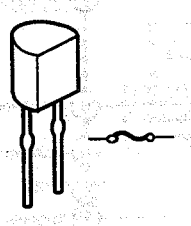
PST529C (IC903)





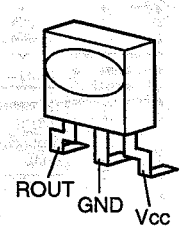
● IC PROTECTOR

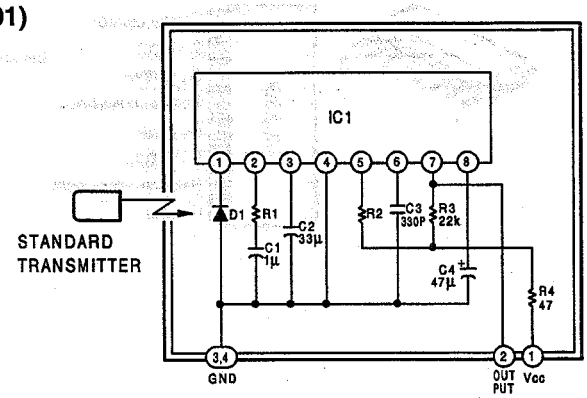
ICP-N15/ICP-F15 (IC1, 2, 3)



● INFRARED REMOTE CONTROL SENSOR

SBX8035F (RM901)



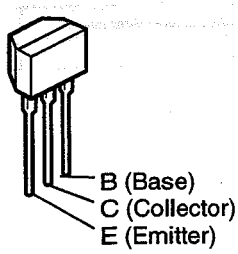


Equivalent Circuit and Measurement Circuit

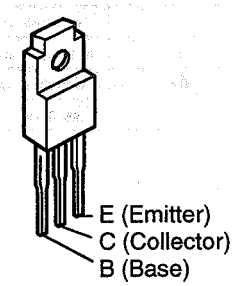
IC1	: CX20106A Chip
D1	: PIN Photo Diode Chip
C1,C2,C4	: Aluminum Electrolytic Capacitor
C3	: SL Characteristic ±5%
R1	: Resistor for Gain Adjustment
R2	: Use ±1% Resistor for fo Adjustment
R (except for above)	: ±5%

● TRANSISTORS

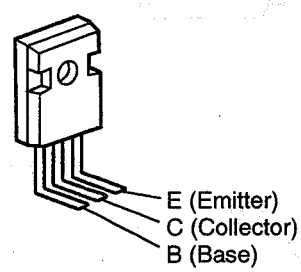
2SA933S (S)
2SC1740S (E)
KTA1266 (Y)
KTC3198 (Y)



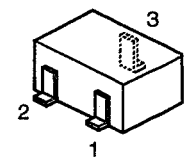
2SB1185 (E/F)
2SD1762 (E/F)



2SA1694 (O.P.Y)
2SC4467 (O.P.Y)

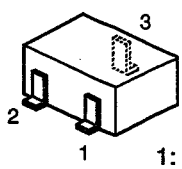


2SA1037K (S/R)
2SC2412K (S), (LN)

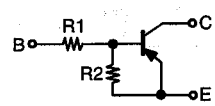


1: Emitter
2: Base
3: Collector

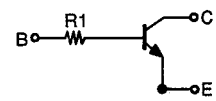
DTA114EK
DTC343TK



1: Emitter
2: Base
3: Collector

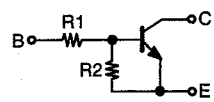


	R1	R2
DTA114EK	10 kohm	10 kohm

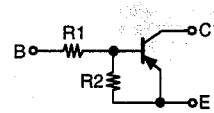


	R1
DTC343TK	2.2 kohm

DTA144ES
DTC114ES
DTC144ES



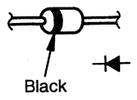
	R1	R2
DTC114ES	10 kohm	10 kohm
DTC144ES	47 kohm	47 kohm



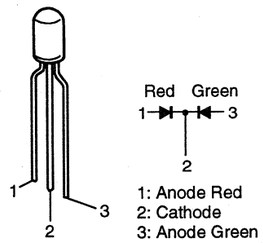
	R1	R2
DTA144ES	47 kohm	47 kohm

● DIODES

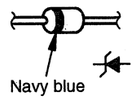
ISS131
IN4002



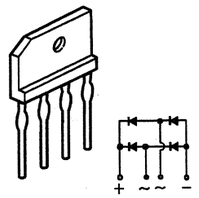
SPR-39MVW3
(LED901, 902, 903)



MTZJ5.6B
MTZJ6.2B
MTZJ13B
MTZJ27B

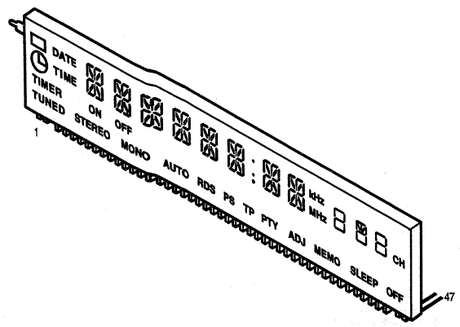


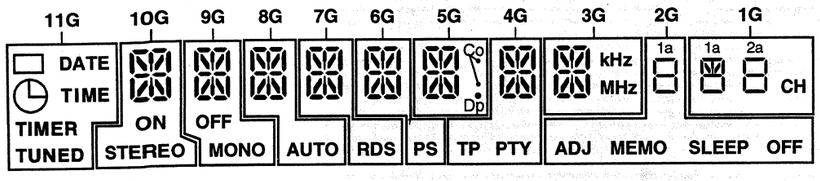
DBF40C/D3SB20

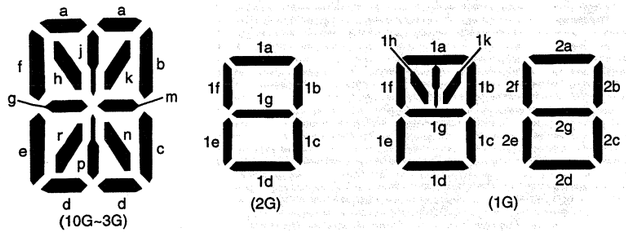


● FL DISPLAY

11BT127GK (FL901)







Pin Connections

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Connection	F1	F1	NP	NP	1G	2G	3G	4G	5G	6G	7G	8G	9G	10G	11G	NC	NC	NC	NC	NC	NC	NC	NC	NC

Pin No.	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
Connection	NC	NC	NC	P16	P15	P14	P13	P12	P11	P10	P9	P8	P7	P6	P5	P4	P3	P2	P1	NP	NP	F2	F2

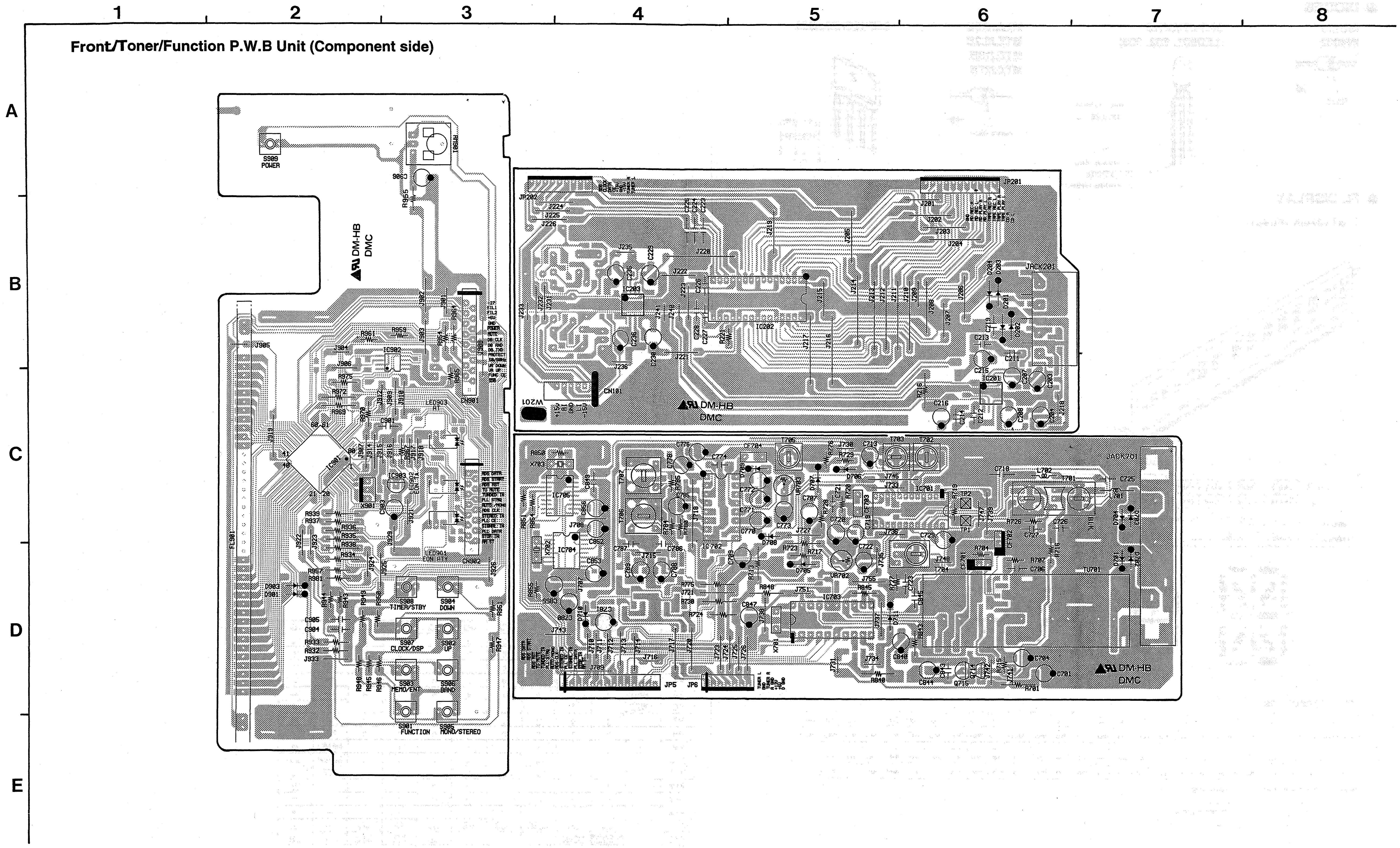
NOTE: 1) F1 and F2: Filaments
2) NP: No pin
3) NC: No connection
4) 1G through 11G: Grid

ANODE CONNECTION

	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G
P1	▭	a	a	a	a	a	a	a	a	1a	1a
P2	DATE	b	b	b	b	b	b	b	b	1b	1b
P3	◷	c	c	c	c	c	c	c	c	1c	1c
P4	TIME	d	d	d	d	d	d	d	d	1d	1d
P5	TIMER	e	e	e	e	e	e	e	e	1e	1e
P6	TUNED	f	f	f	f	f	f	f	f	1f	1f
P7	—	g	g	g	g	g	g	g	g	1g	1g
P8	—	h	h	h	h	h	h	h	h	ADJ	1h, 1k
P9	—	j	j	j	j	j	j	j	j	MEMO	2a
P10	—	k	k	k	k	k	k	k	k	SLEEP	2b
P11	—	m	m	m	m	m	m	m	m	OFF	2c
P12	—	n	n	n	n	n	n	n	n	—	2d
P13	—	p	p	p	p	p	p	p	p	—	2e
P14	—	r	r	r	r	r	r	r	r	—	2f
P15	—	ON	OFF	AUTO	RDS	PS	Co	TP	kHz	—	2g
P16	—	STEREO	MONO	—	—	—	Dp	PTY	MHz	—	CH

PRINTED WIRING BOARD

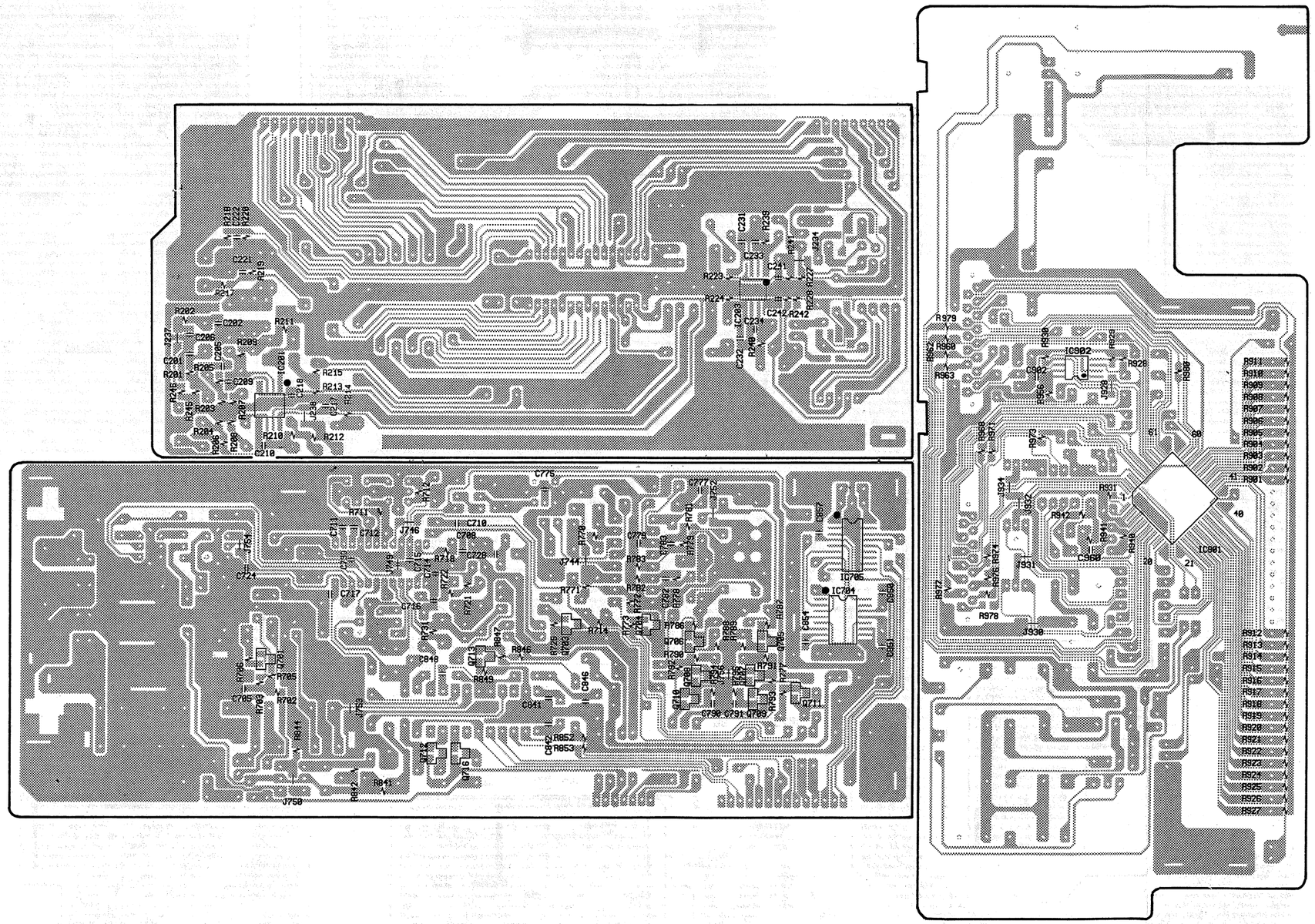
Front/Toner/Function P.W.B Unit (Component side)



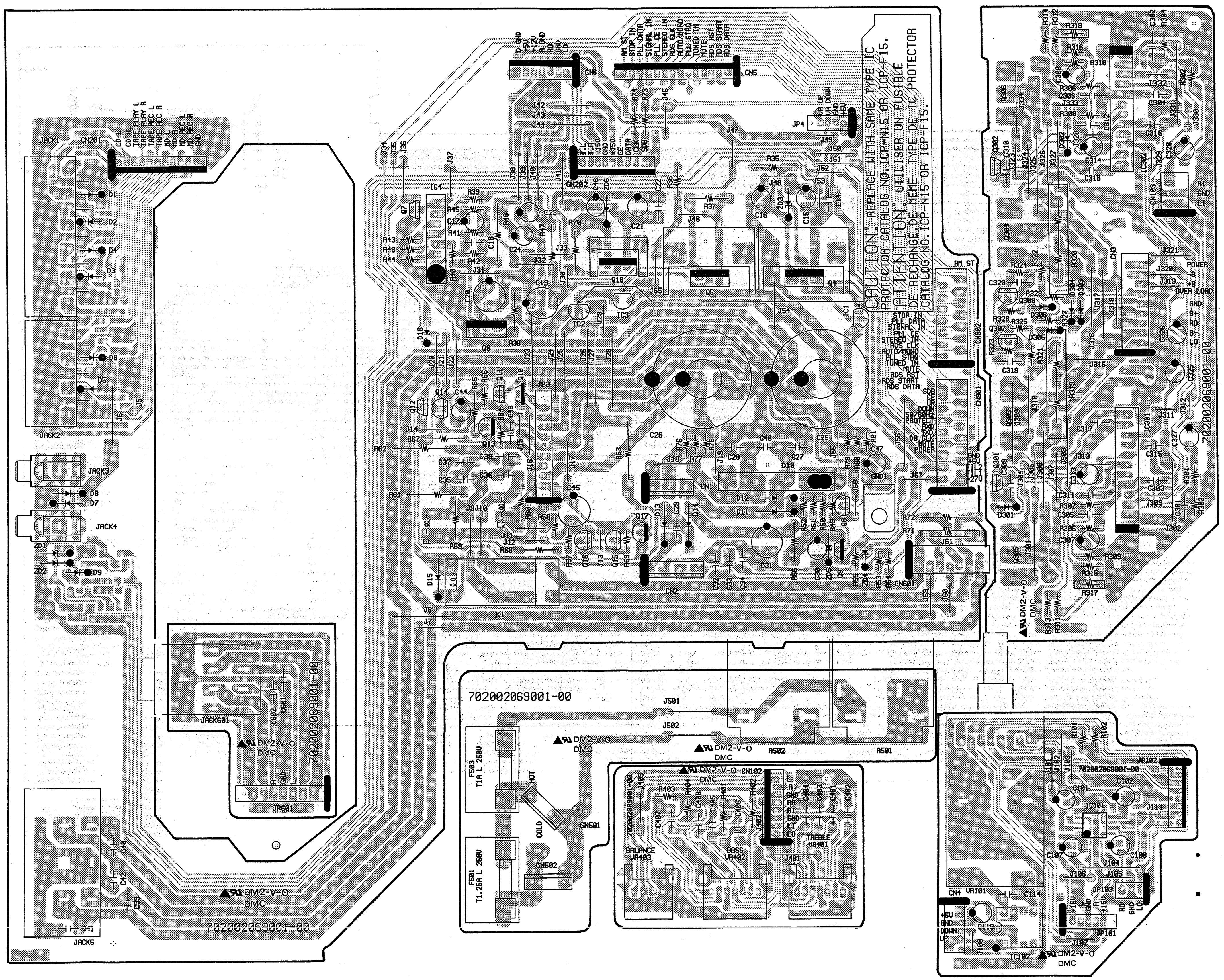
1 2 3 4 5 6 7 8

A B C D E

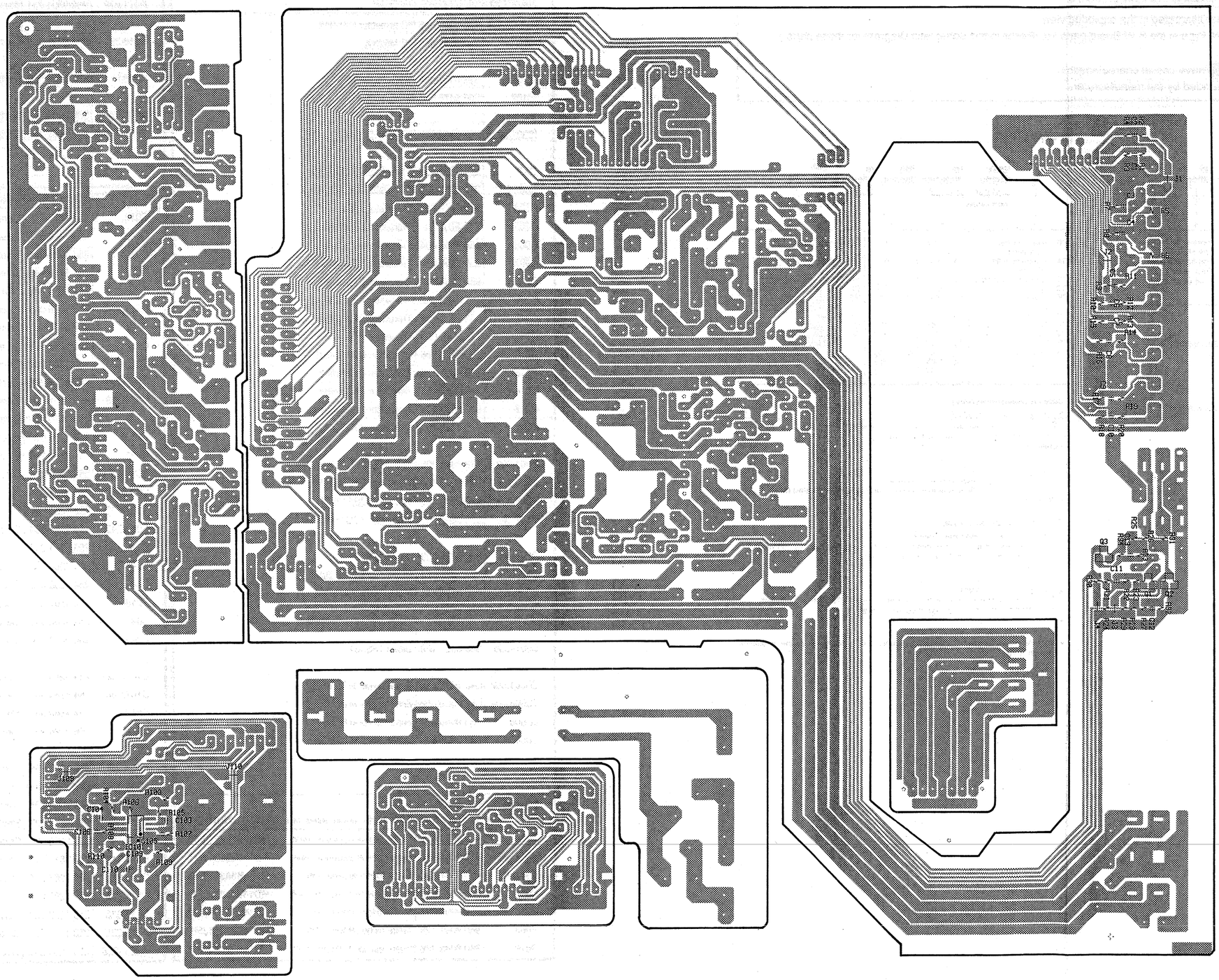
Front/Toner/Function P.W.B Unit (Pattern side)



Main P.W.B Unit (Component side)



Main P.W.B Unit (Pattern side)



NOTE FOR PARTS LIST

- Part indicated with the mark "⊙" are not always in stock and possibly to take a long period of time for supplying, or in some case supplying of part may be refused.
- When ordering of part, clearly indicate "1" and "I" (i) to avoid mis-supplying.
- Ordering part without stating its part number can not be supplied.
- Part indicated with the mark "★" is not illustrated in the exploded view.
- Not including Carbon Film ±5%, 1/4W Type in the P.W.Board parts list. (Refer to the Schematic Diagram for those parts.)

WARNING:
Parts marked with this symbol ⚠ ▒▒ have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

● Resistors

Ex.: RN (Type) 14K (Shape and performance) 2E (Power) 182 (Resistance) G (Allowable error) FR (Others)

RD : Carbon RC : Composition RS : Metal oxide film RW : Winding RN : Metal film RK : Metal mixture	2B : 1/8W 2E : 1/4W 2H : 1/2W 3A : 1W 3D : 2W 3F : 3W 3H : 5W	F : ±1% G : ±2% J : ±5% K : ±10% M : ±20%	P : Pulse-resistant type NL : Low noise type NB : Non-burning type FR : Fuse-resistor F : Lead wire forming

∗ Resistance

1 8 2 ⇒ 1800 ohm = 1.8 kohm
Indicates number of zeros after effective number.
2-digit effective number.
• Units: ohm

1 R 2 ⇒ 1.2 ohm
1-digit effective number.
2-digit effective number, decimal point indicated by R.
• Units: ohm

● Capacitors

Ex.: CE (Type) 04W (Shape and performance) 1H (Dielectric strength) 2R2 (Capacity) M (Allowable error) BP (Others)

CE : Aluminum foil electrolytic CA : Aluminum solid electrolytic CS : Tantalum electrolytic CQ : Film CK : Ceramic CC : Ceramic CP : Oil CM : Mica CF : Metallized CH : Metallized	0J : 6.3V 1A : 10V 1C : 16V 1E : 25V 1V : 35V 1H : 50V 2A : 100V 2B : 125V 2C : 160V 2D : 200V 2E : 250V 2H : 500V 2J : 630V	F : ±1% G : ±2% J : ±5% K : ±10% M : ±20% Z : +80% −20% P : +100% −0% C : ±0.25pF D : ±0.5pF = : Others	HS : High stability type BP : Non-polar type HR : Ripple-resistant type DL : For change and discharge HF : For assuring high frequency U : UL part C : CSA part W : UL-CSA type F : Lead wire forming

∗ Capacity (electrolyte only)

2 2 2 ⇒ 2200μF
Indicates number of zeros after effective number.
2-digit effective number.
• Units: μF.

2 R 2 ⇒ 2.2μF
1-digit effective number.
2-digit effective number, decimal point indicated by R.
• Units: μF.

∗ Capacity (except electrolyte)

2 2 2 ⇒ 2200pF=0.0022μF
(More than 2) — Indicates number of zeros after effective number.
2-digit effective number.
• Units: pF.

2 2 1 ⇒ 220pF
(0 or 1) — Indicates number of zeros after effective number.
2-digit effective number.
• Units: pF.

• When the dielectric strength is indicated in AC, "AC" is included after the dieelectric strength value.

PARTS LIST OF P.W.B. UNIT ASS'Y

MAIN UNIT

Ref. No.	Part No.	Part Name	Remarks
SEMICONDUCTORS GROUP			
IC001~003	268 0073 905	IC protector ICP-N15	
IC004	263 0646 007	IC M5230L	
IC101	928 0035 809	IC NJM4565MD	
IC102	263 0476 002	IC LB1639	
IC301,302	363 0206 007	IC μPC1225H	
Q001	271 0238 908	Transistor 2SA1037K	
Q002,003	273 0384 900	Transistor 2SC2412K	
Q004	960 0049 404	Transistor 2SD2576F	
Q005	9LC F013 21	Transistor 2SB1655E	
Q006	960 0049 404	Transistor 2SD2576F	
Q007	269 0040 009	Transistor DTC144ES	
Q008	960 0005 202	Transistor KTC3198Y	
Q009	271 0192 002	Transistor 2SA933S	
Q010	269 0093 904	Transistor DTA144ES	
Q011	269 0040 009	Transistor DTC144ES	
Q012	269 0020 906	Transistor DTC114ES	
Q013	960 0005 105	Transistor KTA1266Y	
Q014~016	960 0005 202	Transistor KTC3198Y	
Q017	960 0005 105	Transistor KTA1266Y	
Q018	960 0049 404	Transistor 2SD2576F	
Q301,302	273 0388 906	Transistor 2SC1740SE	
Q303,304	960 0000 304	Transistor 2SC4467P	
Q305,306	960 0000 207	Transistor 2SA1694P	
Q307,308	273 0207 003	Transistor KSC1845F	
D001~009	960 0031 409	Diode 1SS131	
D010	960 0039 508	Diode D3SB20 or DBF40C	
D011~015	916 0053 008	Diode 1N4002A	
D016	960 0031 409	Diode 1SS131	
D301~306	960 0031 409	Diode 1SS131	
ZD001,002	LA2 100U 125	Zener diode MTZJ6.2B	
ZD003,004	LA2 60C0 058	Zener diode MTZJ5.6B	
ZD005	9H3 0000 231	Zener diode MTZJ27B	
ZD006	960 0037 209	Zener diode MTZJ13B	
RESISTORS GROUP (Not included carbon film ±5% 1/4W and chip type resistor)			
R035	960 9001 634	Fuse resistor 4.7kohm 1/4W	RD14B2E472JFR
R037,038	960 9001 621	Fuse resister 220ohm 1/4W	RD14B2E221JFR
R047,048	960 9001 728	Metal oxide 390ohm 1W	RS14B3A391JFR
R056	960 9001 618	Fuse resistor 1.5kohm 1/4W	RD14B2E152JFR
R061,062	960 9001 702	Metal oxide 10ohm 1W	RS14B3A100JFR
R063	960 9001 728	Metal oxide 390ohm 1W	RS14B3A391JFR
R070	960 9002 206	Fuse resistor 1.2kohm 1/4W	RD14B2E122JFR
R071,072	960 9001 731	Metal oxide 560ohm 1W	RS14B3A561JFR
R319,320	243 2026 032	Cement 0.22ohm x 2, 3W	RW===3FR22R22K
VR101	960 0049 909	Variable resistor 100kohm-B	VOLUME
VR401,402	960 0049 802	Variable resistor 100kohm-A	TREBLE,BASS
VR403	960 0049 705	Variable resistor 200kohm	BLANCE
CAPACITORS GROUP (Not included ceramic chip type capacitor)			
C014	253 1174 018	Ceramic 0.01 μF/16V	CK14Y1C103M
C015	254 4254 912	Electrolytic 22 μF/16V	CE04W1C220M
C016	254 4260 061	Electrolytic 3.3 μF/50V	CE04W1H3R3M
C017	254 4260 045	Electrolytic 1 μF/50V	CE04W1H010M
C018	255 1251 940	Film 0.0047 μF/50V	CQ92M1H472J
C019,020	254 4256 046	Electrolytic 100 μF/25V	CE04W1E101M
C021	254 4260 087	Electrolytic 10 μF/50V	CE04W1H100M
C022	253 1174 018	Ceramic 0.01 μF/16V	CK14Y1C103M
C023,024	254 4260 087	Electrolytic 10 μF/50V	CE04W1H100M
C025,026	960 9002 219	Electrolytic 4700 μF/50V	
C027,028	960 9001 100	Ceramic 0.01 μF/500V	CK45F2H103Z
C029	253 1010 004	Ceramic 0.01 μF/50V	CK45B1H103K
C030	254 4260 087	Electrolytic 10 μF/50V	CE04W1H100M
C031	254 4261 028	Electrolytic 100 μF/50V	CE04W1H101M
C032~034	253 1010 004	Ceramic 0.01 μF/50V	CK45B1H103K
C035~038	255 4224 903	Film 0.047 μF/50V	CQ92M1H473J
C039,040	255 1251 940	Film 0.0047 μF/50V	CQ92M1H472J
C041,042	253 1179 084	Ceramic 0.0047 μF/50V	CK45B1H472K
C043	253 1174 018	Ceramic 0.01 μF/16V	CK14Y1C103M
C044	254 4260 087	Electrolytic 10 μF/50V	CE04W1H100M
C045	254 4250 042	Electrolytic 330 μF/6.3V	CE04W0J331M
C046	254 4260 087	Electrolytic 10 μF/50V	CE04W1H100M
C047	254 4260 045	Electrolytic 1 μF/50V	CE04W1H010M
C048	960 9001 100	Ceramic 0.01 μF/500V	CK45F2H103Z
C101,102	254 4260 045	Electrolytic 1 μF/50V	CE04W1H010M
C107,108	254 4260 087	Electrolytic 10 μF/50V	CE04W1H100M
C113	254 4260 087	Electrolytic 10 μF/50V	CE04W1H100M
C114	255 4199 973	Film 0.01 μF/50V	CQ92M1H103J
C301,302	253 1193 976	Ceramic 220pF/50V	CK14B1H221K
C303,304	HMA 1000 159	Ceramic 100pF/50V	CK14B1H101K
C305,306	960 9002 235	Ceramic 4.7pF/50V	CK14CH1H4R7K
C307,308	254 4252 037	Electrolytic 100 μF/10V	CE04W1A101M
C309,310	253 1195 929	Ceramic 0.0022 μF/16V	CK14X1C222M
C311,312	253 3617 007	Ceramic 39pF/50V	CC45SL1H390J
C313,314	254 4261 015	Electrolytic 47 μF/50V	CE04W1H470M
C315,316	253 4297 002	Ceramic 150pF/500V	CC45SL2H151J
C317,318	255 4223 988	Film 0.033 μF/50V	CQ92M1H333J
C319,320	253 1175 907	Ceramic 0.022 μF/25V	CK14F1E223Z
C325~328	254 4260 045	Electrolytic 1 μF/50V	CE04W1H010M

FRONT UNIT

Ref. No.	Part No.	Part Name	Remarks
C401,402	255 1251 982	Film 0.0056 µF/50V	CQ92M1H562J
C403~406	255 4212 067	Film 0.033 µF/50V	CQ92M1H333K(MRZ)
C407,408	960 9002 222	Film 0.18 µF/50V	CQ92M1H184J
C601,602	HMA 1000 160	Ceramic 220pF/50V	CK14B1H221K
OTHER PARTS GROUP			
⚠F501	960 0037 005	Fuse 250V/T1.25A	
⚠F503	960 0049 608	Fuse 250V/T1A	
	960 0005 804	Fuse holder	(F501,503)
⚠A501,502	960 0049 501	AC outlet	
GND1	960 0036 909	Earth terminal	
JACK1	960 0005 406	6P RCA terminal	CD/TAPE
JACK2	960 0004 504	4P RCA terminal	MD
JACK3,4	960 0004 407	Jack D3.5	System connector
JACK5	960 0004 601	4P speaker terminal	Speaker
JACK601	960 0002 904	Jack D6.5	Headphone
K001	214 0128 002	Relay	
L001,002	960 0005 008	Coil 0.15 µH	
B	DCD 2150 903	3x8 special screw	Heat sink Power PWB

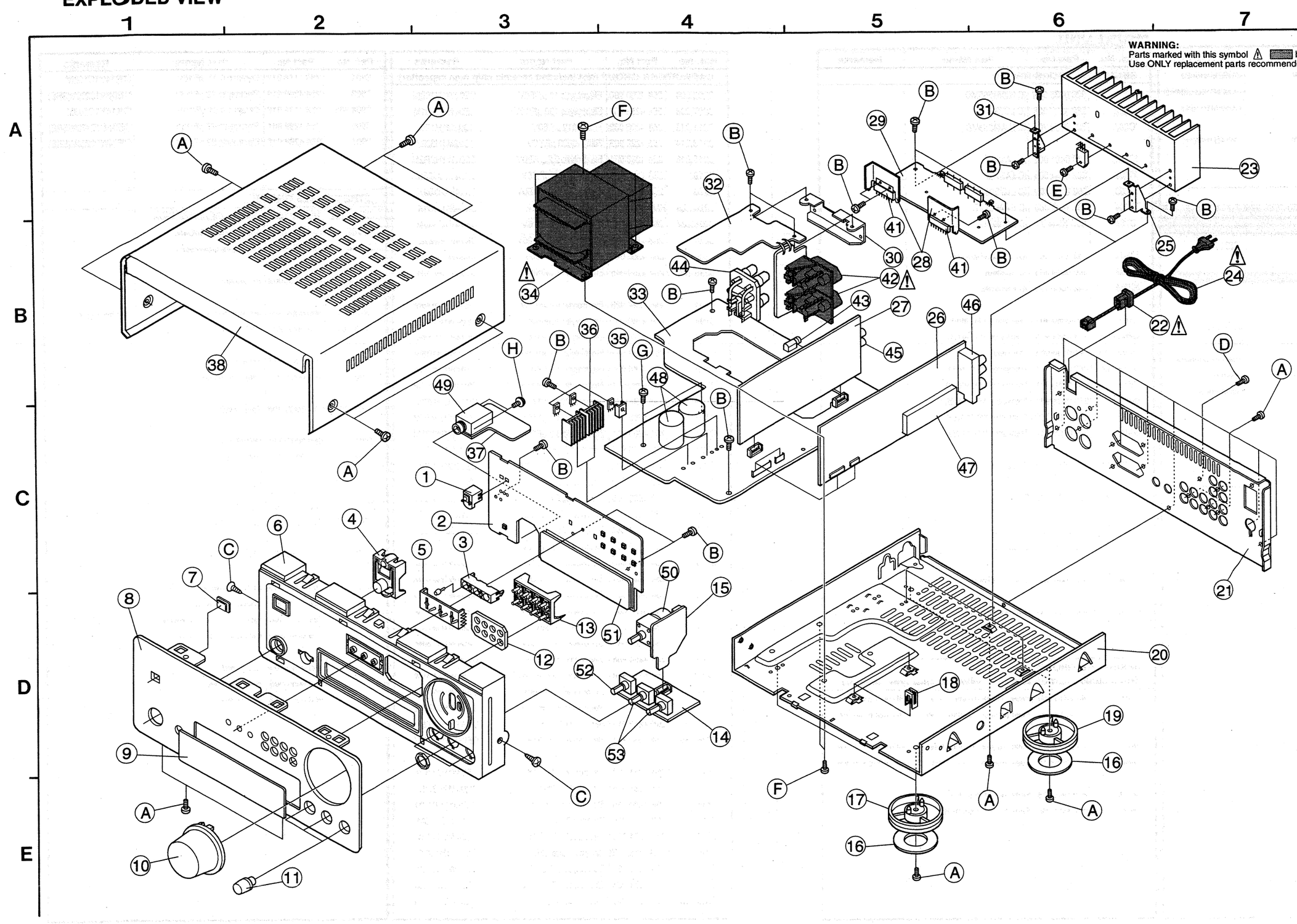
Ref. No.	Part No.	Part Name	Remarks
SEMICONDUCTORS GROUP			
IC201	928 0035 809	IC NJM4565MD	
IC202	262 1227 008	IC LC7821	
IC203	928 0035 809	IC NJM4565MD	
IC701	263 0421 002	IC LA1267	
IC702	263 0584 004	IC LA3410	
IC703	262 0703 002	IC LM7000	
IC704	262 1827 000	IC SAA6579T	
IC705	9LC K044 71	IC LC7074M	
IC901	262 2177 007	IC HD6433726A76H	
IC902	960 0050 503	IC XL9040F	
IC903	LA2 50C0 028	IC PST529C	
Q701	960 0050 901	Transistor KTC3880O	
Q703~706	273 0384 900	Transistor 2SC2412K	
Q707~710	269 0104 903	Transistor DTC343TK	
Q711,712	269 0083 901	Transistor DTA114EK	
Q713	960 0050 901	Transistor KTC3880O	
Q714	273 0303 907	Transistor 2SC1740SR	
Q715	273 0207 003	Transistor KSC1845F	
Q716	269 0083 901	Transistor DTA114EK	
D201~204	960 0031 409	Diode 1SS131	
D701~711	960 0031 409	Diode 1SS131	
D901	960 0031 409	Diode 1SS131	
D903	960 0031 409	Diode 1SS131	
LED901~903	960 0050 202	LED SPR39MVW3	
RM901	960 0050 105	Remocon sensor	
RESISTORS GROUP (Not included carbon film ±5% 1/4W and chip type resistor)			
R701	241 2313 066	Fuse resistor 47ohm 1/4W	RD14B2E470JFR
R775	241 2313 901	Fuse resistor 100ohm 1/4W	RD14B2E101JFR
R840	241 2313 901	Fuse resistor 100ohm 1/4W	RD14B2E101JFR
R848	241 2315 912	Fuse resistor 10ohm 1/4W	RD14B2E100JFR
VR702	960 0043 303	Semi fixed 47kohm-B	
VR703	960 0043 206	Semi fixed 220kohm-B	

Ref. No.	Part No.	Part Name	Remarks
CAPACITORS GROUP (Not included ceramic chip type capacitor)			
C203,204	254 4260 980	Electrolytic 10 µF/50V	CE04W1H100M
C207,208	254 4252 037	Electrolytic 100 µF/10V	CE04W1A101M
C211,212	255 4223 933	Film 0.012 µF/50V	CQ92M1H123J
C213,214	255 4222 963	Film 0.0033 µF/50V	CQ92M1H332J
C215,216	254 4260 951	Electrolytic 2.2 µF/50V	CE04W1H2R2M
C219	253 1174 018	Ceramic 0.01 µF/16V	CK14Y1C103M
C223	253 1194 959	Ceramic 0.001 µF/50V	CK14B1H102K
C224,225	HMA 1000 159	Ceramic 100pF/50V	CK14B1H101K
C226,227	253 1174 018	Ceramic 0.01 µF/16V	CK14Y1C103M
C228	253 1175 907	Ceramic 0.022 µF/25V	CK14F1E223Z
C229,230	254 4260 045	Electrolytic 1 µF/50V	CE04W1H010M
C235,236	254 4260 045	Electrolytic 1 µF/50V	CE04W1H010M
C701	254 4254 938	Electrolytic 47 µF/16V	CE04W1C470M
C704	254 4260 045	Electrolytic 1 µF/50V	CE04W1H010M
C706	253 1174 018	Ceramic 0.01 µF/16V	CK14Y1C103M
C707	254 4260 087	Electrolytic 10 µF/50V	CE04W1H100M
C709	254 4260 045	Electrolytic 1 µF/50V	CE04W1H010M
C713	254 4260 061	Electrolytic 3.3 µF/50V	CE04W1H3R3M
C718	HMA 1000 156	Ceramic 22pF/50V	CC14SL1H220J
C719	254 4260 074	Electrolytic 4.7 µF/50V	CE04W1H4R7M
C720	254 4260 061	Electrolytic 3.3 µF/50V	CE04W1H3R3M
C721	255 4223 945	Film 0.015 µF/50V	CQ92M1H153J
C722	254 4260 087	Electrolytic 10 µF/50V	CE04W1H100M
C723	253 1174 018	Ceramic 0.01 µF/16V	CK14Y1C103M
C725	253 4535 968	Ceramic 6pF/50V	CC45SL1H060D
C726	253 1026 001	Ceramic 0.047 µF/50V	CK45F1H473Z
C727	253 1190 940	Ceramic 15pF/50V	CK14SL1H150J
C729	254 4260 087	Electrolytic 10 µF/50V	CE04W1H100M
C770	254 4260 045	Electrolytic 1 µF/50V	CE04W1H010M
C771	254 4260 061	Electrolytic 3.3 µF/50V	CE04W1H3R3M
C772	254 3056 001	Electrolytic 0.47 µF/50V	CE04W1HR47M
C773	254 4260 087	Electrolytic 10 µF/50V	CE04W1H100M
C774	255 4212 054	Film 0.047 µF/50V	CQ92M1H473J
C776	254 4260 087	Electrolytic 10 µF/50V	CE04W1H100M
C778	254 4254 938	Electrolytic 47 µF/16V	CE04W1C470M
C780	254 4250 929	Electrolytic 100 µF/16V	CE04W1C101M
C781	254 4260 087	Electrolytic 10 µF/50V	CE04W1H100M
C785	254 4254 938	Electrolytic 47 µF/16V	CE04W1C470M
C786,787	255 4212 012	Film 0.0047 µF/50V	CQ92M1H472J
C788,789	254 4260 951	Electrolytic 2.2 µF/50V	CE04W1H2R2M
C840	254 4254 938	Electrolytic 47 µF/16V	CE04W1C470M
C843	255 4223 975	Film 0.027 µF/50V	CQ92M1H273J
C844	254 4260 045	Electrolytic 1 µF/50V	CE04W1H010M
C845	253 1174 018	Ceramic 0.01 µF/16V	CK14Y1C103M
C847	254 4254 938	Electrolytic 47 µF/16V	CE04W1C470M
C849	HMA 1000 159	Ceramic 100pF/50V	CK14B1H101K
C852	254 4260 951	Electrolytic 2.2 µF/50V	CE04W1H2R2M
C853	254 4254 938	Electrolytic 47 µF/16V	CE04W1C470M
C855,856	254 4254 938	Electrolytic 47 µF/16V	CE04W1C470M

Ref. No.	Part No.	Part Name	Remarks
C901	253 1174 018	Ceramic 0.01 µF/16V	CK14Y1C103M
C903	254 4299 919	Electrolytic 22 µF/16V	CE04W1C220M(SRE)
C904,905	253 1174 018	Ceramic 0.01 µF/16V	CK14Y1C103M
C906	254 4299 964	Electrolytic 47 µF/16V	CE04W1C470M(SRE)
C907	254 4299 919	Electrolytic 22 µF/16V	CE04W1C220M(SRE)
OTHER PARTS GROUP			
CF701,702	261 0120 006	FM filter SFE10.7MS3GK-A	
CF703	940 0425 202	AM filter BFU450C4N	
CF704	261 0079 005	Resonator CSB456F11	
FL901	393 8012 002	FL display	
JACK201	960 0004 504	4P RCA terminal	PHONO/AUX
LACK701	960 0008 209	ANT terminal	
L701	960 0007 307	Filter coil 1 µH	
L702	960 0051 007	Filter coil 10 µH	
S901~909	LA2 60C0 008	Tact switch	
T701	960 0007 336	MW IF coil	
T702	960 0007 349	FM IF coil	
T703	960 0007 352	FM IF coil	
T704	960 0007 323	MW IF coil	
T705	960 0037 607	LC filter	
T706,707	960 0050 600	LC MPX filter	
TU701	960 0050 707	FM tuner FE418-G02	
X701	960 0008 005	Crystal 7.2MHz	
X702	399 0178 007	Crystal 4.332MHz	
X703	399 9018 003	Resonator CST4.00MGW	
X901	399 0243 903	Resonator CST8.38MTW	
	960 0050 406	LED holder	
	960 0050 309	FLD supporter	
	960 0050 804	Earth plate	

EXPLODED VIEW

WARNING:
Parts marked with this symbol ⚠ ▨ have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.



PARTS LIST OF EXPLODED VIEW

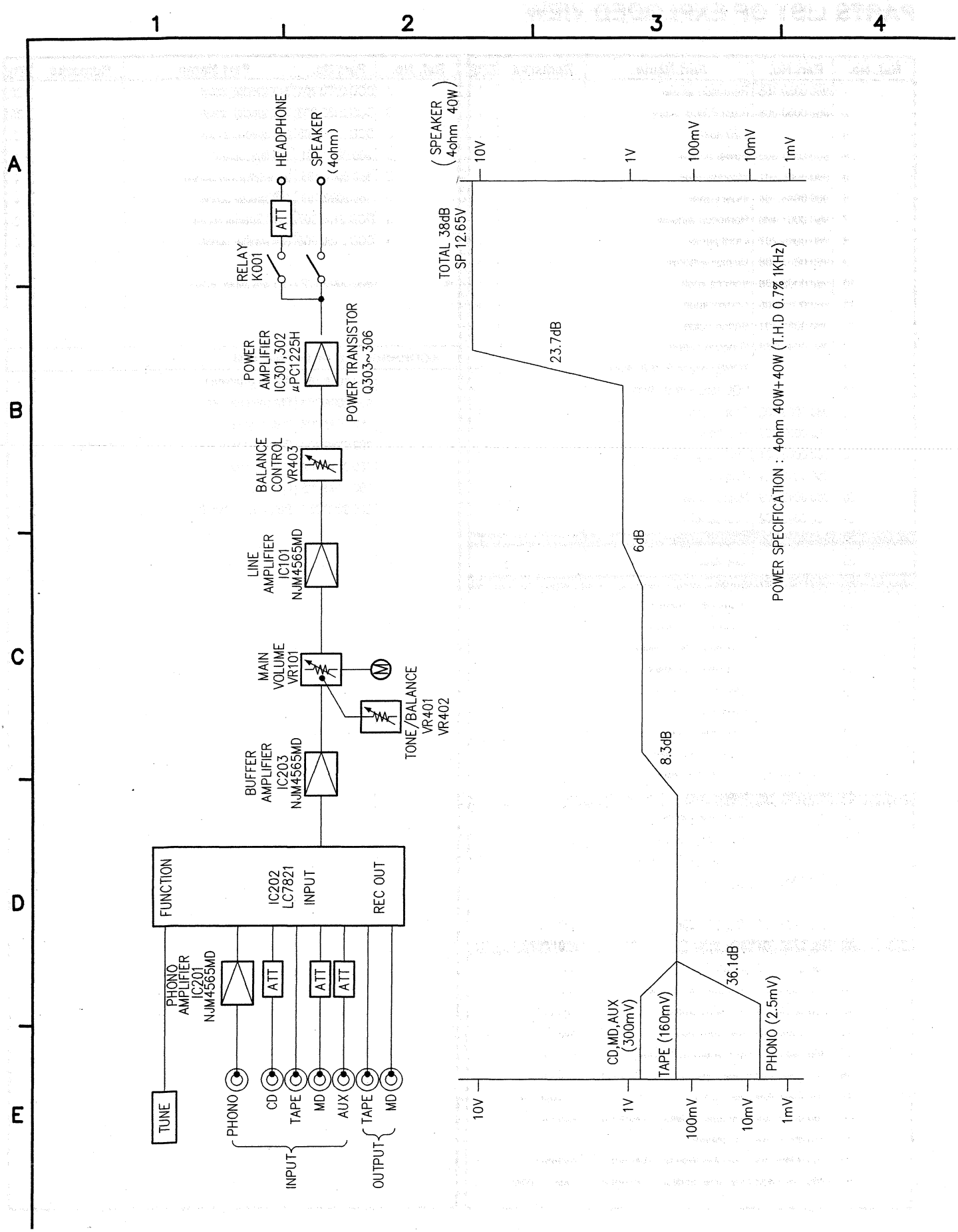
Ref. No.	Part No.	Part Name	Remarks	Q'ty
1	960 0050 105	Remocon senser		1
2	960 0050 008	Front P.W.B. Ass'y		1
3		LED holder		1
4	960 0001 303	Power button		1
5	960 0048 201	Function lens		1
6	960 0048 104	Inner panel		1
7	960 0001 400	Remocon window		1
8	960 0048 007	Front panel		1
9	960 0007 608	Display window		1
10	960 0003 806	Volume knob		1
11	960 0048 706	Control knob		3
12	960 0051 201	Button guide		1
13	960 0048 308	Function button		1
14	—	TONE volume P.W.B. Ass'y		(1)
15	—	VOLUME P.W.B. Ass'y		(1)
16	960 0003 505	Foot cushion		4
17	960 0003 408	Foot front		2
18	960 0003 301	PWB supporter		2
19	960 0003 204	Foot rear		2
20	960 0048 609	Main chassis		1
21	960 0048 502	Rear panel		1
⚠ 22	960 0003 602	AC cord stopper		1
23	—	Heat sink		1
⚠ 24	960 0032 301	AC cord		1
25	—	Heat sink bracket R		1
26	—	Tuner P.W.B. Ass'y		(1)
27	—	Function P.W.B. Ass'y		(1)
28	—	Heat sink sub Ass'y		2
29	—	AMP P.W.B. Ass'y		(1)
30	—	PWB bracket		1
31	—	Heat sink brscket L		1
32	—	Power P.W.B. Ass'y		(1)
33	960 0049 307	Main P.W.B. Ass'y		1
⚠ 34	960 0051 104	Power trans		1
35	—	Heat sink sub Ass'y		1
36	—	Heat sink sub Ass'y		2
37	—	Headphone P.W.B. Ass'y		(1)
38	960 0000 702	Top cover		1
41	363 0206 007	IC μPC1225H	IC301,302	2
⚠ 42	960 0049 501	AC outlet	A501,502	2
43	960 0004 407	Jack D3.5	Jack3,4	2
44	960 0004 601	4P speaker terminal	Jack5	1
45	960 0004 504	4P RCA terminal	Jack201	1
46	960 0008 209	ANT terminal	Jack701	1
47	960 0050 707	FM tuner FE418-G02	TU701	1
48	960 9002 219	Electrolytic capacitor 4700μF/50V	C25,26	2
49	960 0002 904	Jack D6.5	Headphone	1
50	960 0049 909	Variable resistor 100kohm-B	Volume	1
51	393 8012 002	FL display		1
52	960 0049 705	Variable resistor 200kohm	Balance	1
53	960 0049 802	Variable resistor 100kohm-A	Bass, Treble	2

Ref. No.	Part No.	Part Name	Remarks	Q'ty
A	DCD 2150 904	3x8 special screw		28
B	DCD 2150 903	3x8 special screw		20
C	DCD 2150 905	3x8 special screw		2
D	960 9000 101	3x8 tapp screw		1
E	960 9000 185	3x14 s/washer screw		4
F	960 9000 169	4x8 special screw		4
G	DCD 2150 907	3x17 Special screw		2
H	DCD 2150 908	3x8 washer screw		2
★	960 9000 172	4x8 S/washer screw		2

ACCESSORIES AND PACKING

960 0004 106	AM loop antenna		1
960 0004 203	FM antenna wire		1
960 0048 803	Inst. manual		1
960 0048 900	Remote controler	RC-818	1
960 0049 006	Carton case		1
960 0049 103	Cushion		1
505 8092 023	Poly bag 470x550		1

BLOCK AND LEVEL DIAGRAM

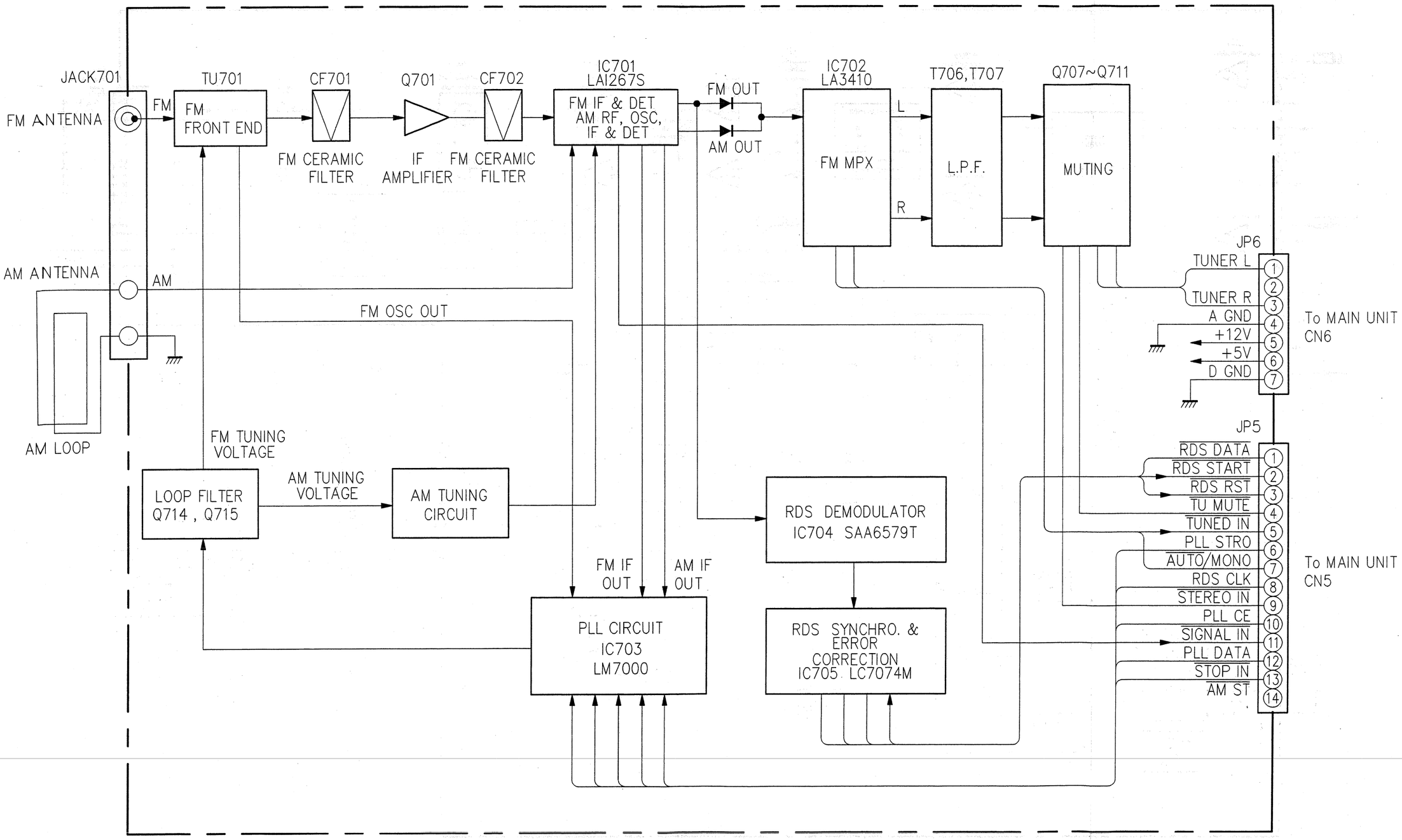


BLOCK DIAGRAM

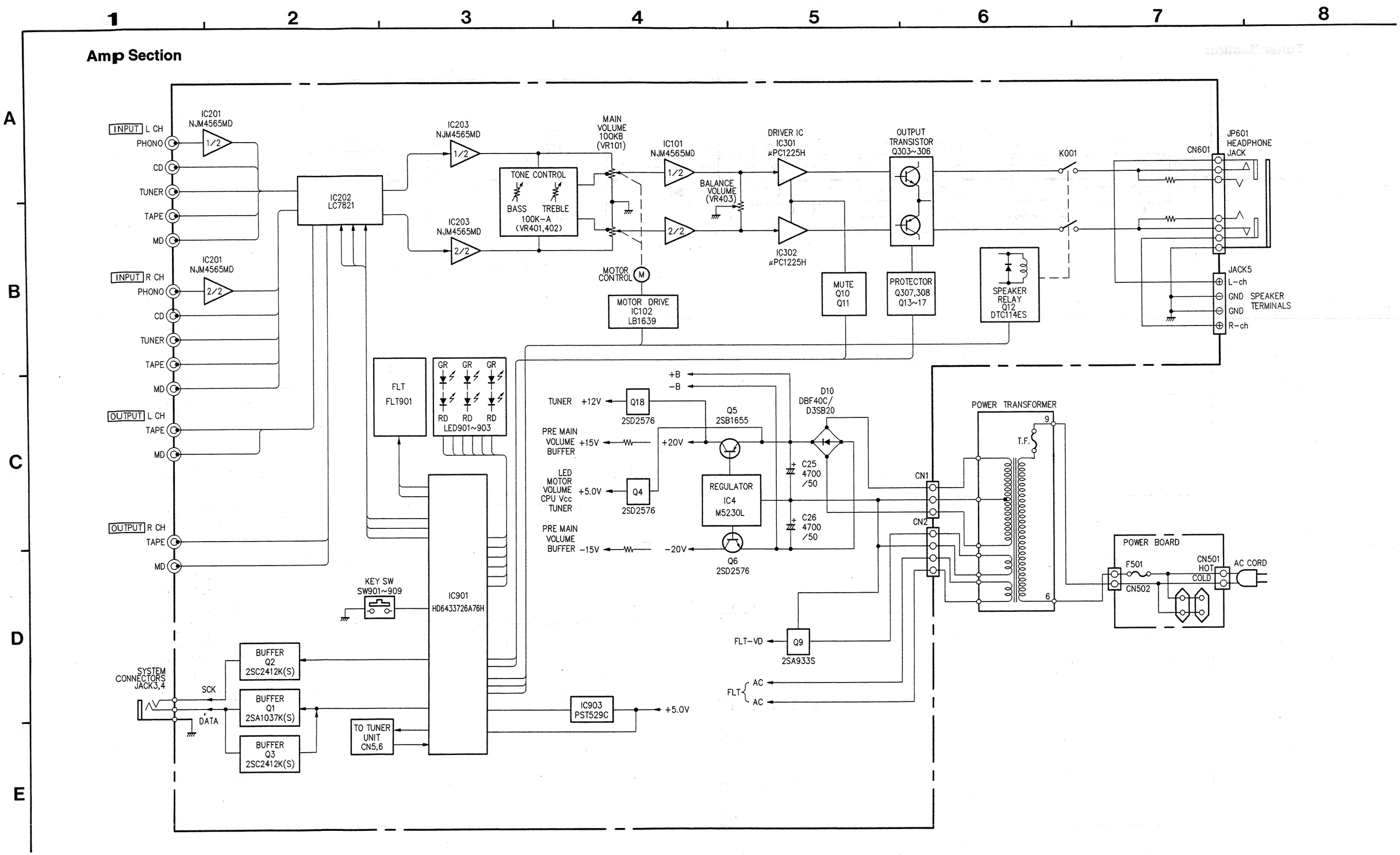
1 2 3 4 5 6 7 8

A B C D E

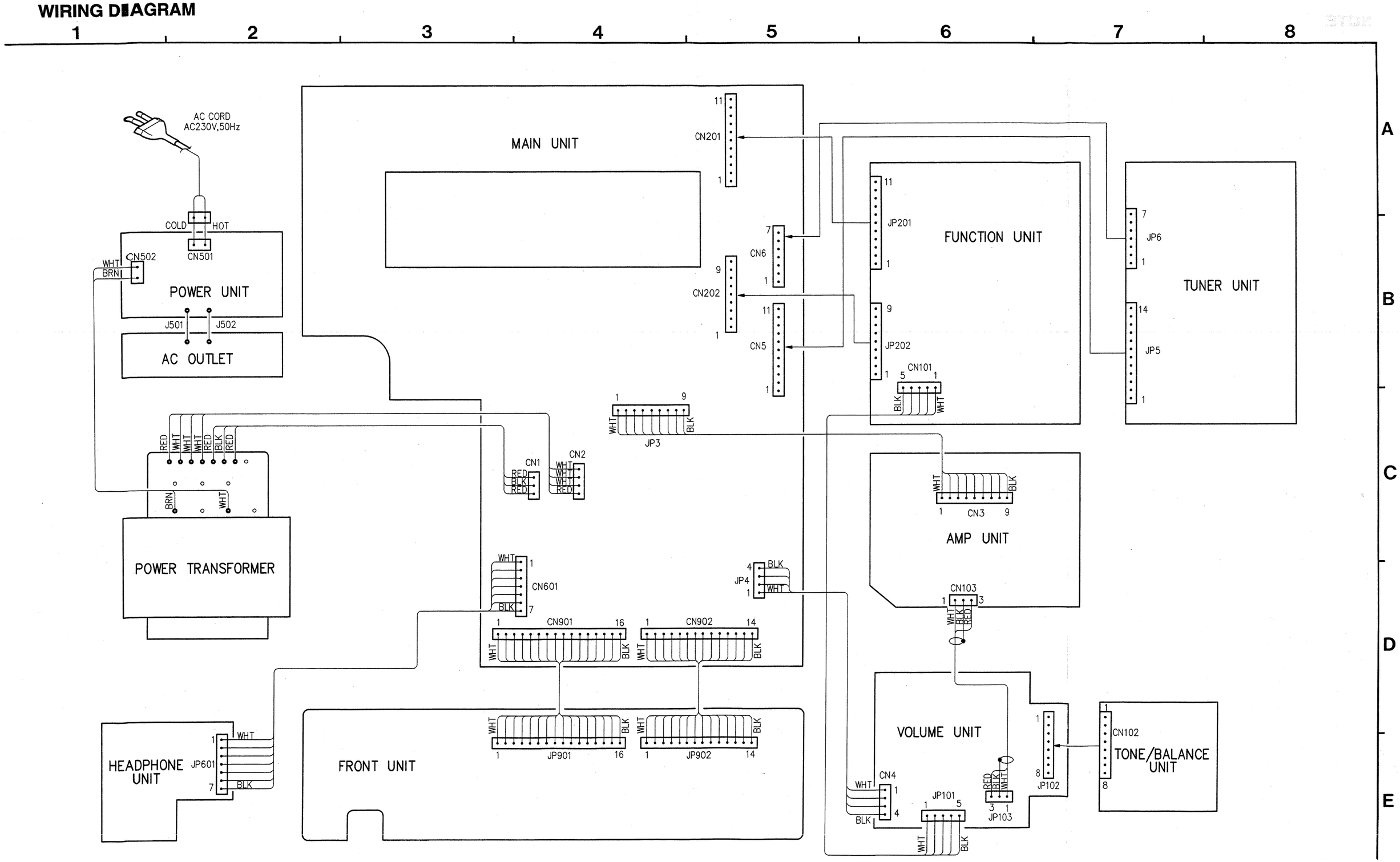
Tuner Section



Amp Section


1
2
3
4
5
6
7
8
A
B
C
D
E
INPUT L CH
PHONO
CD
TUNER
TAPE
MD
INPUT R CH
PHONO
CD
TUNER
TAPE
MD
OUTPUT L CH
TAPE
MD
OUTPUT R CH
TAPE
MD
IC201 NJM4565MD
1/2
2/2
IC202 LC7821
IC203 NJM4565MD
1/2
2/2
TONE CONTROL
BASS TREBLE
100K-A
(VR401,402)
MAIN VOLUME 100KB (VR101)
IC101 NJM4565MD
1/2
2/2
BALANCE VOLUME (VR403)
DRIVER IC IC301 μPC1225H
IC302 μPC1225H
OUTPUT TRANSISTOR Q303~306
K001
CN601
JP601 HEADPHONE JACK
JACK5
L-ch
GND SPEAKER TERMINALS
GND
R-ch
MOTOR CONTROL
MOTOR DRIVE IC102 LB1639
MUTE Q10 Q11
PROTECTOR Q307,308 Q13~17
SPEAKER RELAY Q12 DTC114ES
FLT FLT901
GR GR GR
RD RD RD
LED901~903
KEY SW SW901~909
IC901 HD6433726A76H
SYSTEM CONNECTORS JACK3,4
SCK
DATA
BUFFER Q2 2SC2412K(S)
BUFFER Q1 2SA1037K(S)
BUFFER Q3 2SC2412K(S)
TO TUNER UNIT CN5,6
IC903 PST529C
+5.0V
+B
-B
TUNER +12V
Q18
2SD2576
Q5
2SB1655
D10
DBF40C/
D3SB20
PRE MAIN VOLUME BUFFER +15V
+20V
C25
4700
/50
LED MOTOR VOLUME CPU Vcc TUNER +5.0V
Q4
2SD2576
REGULATOR IC4 M5230L
C26
4700
/50
PRE MAIN VOLUME BUFFER -15V
-20V
Q6
2SD2576
FLT-VD
Q9
2SA933S
FLT AC
AC
CN1
CN2
POWER TRANSFORMER
9
T.F.
6
POWER BOARD
F501
CN502
CN501
HOT
COLD
AC CORD

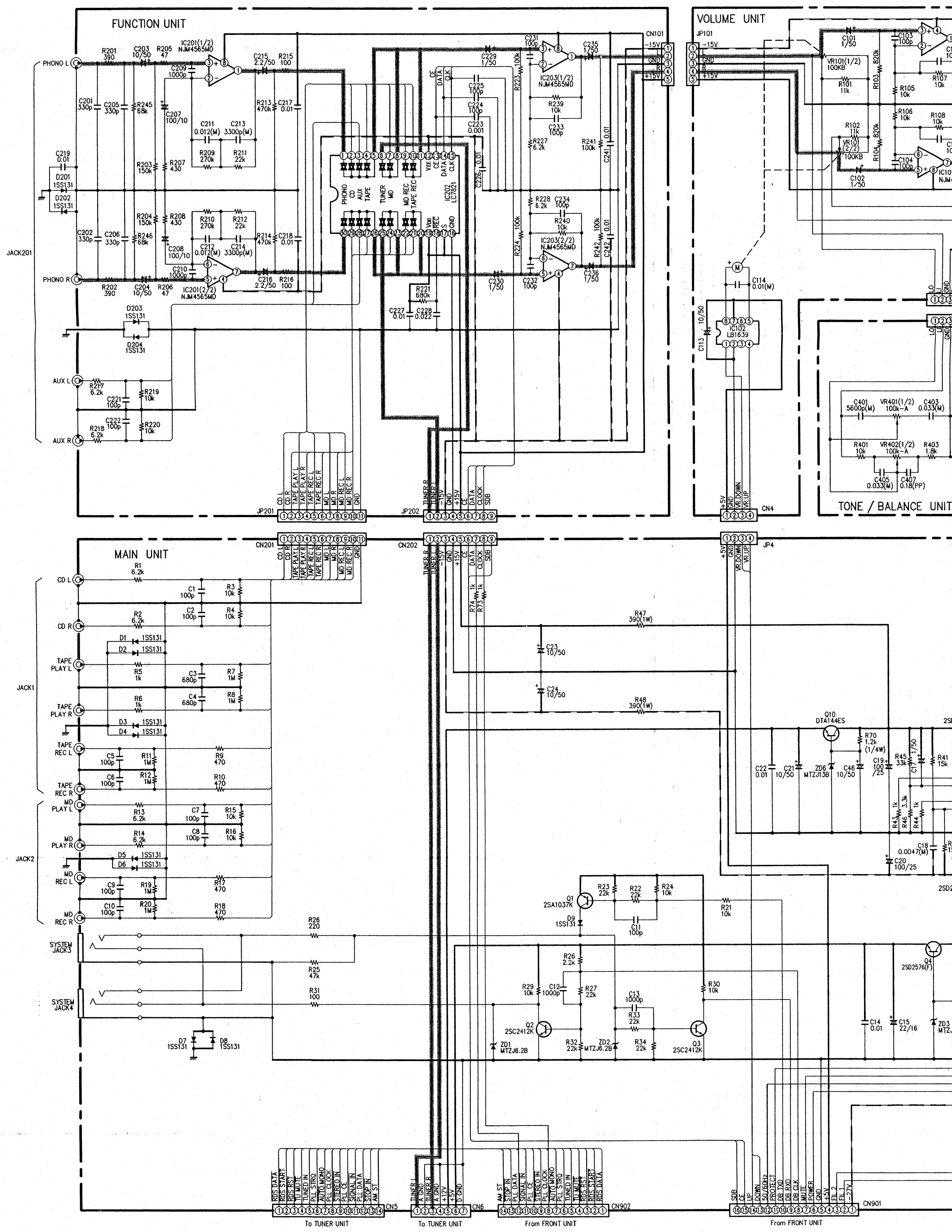
WIRING DIAGRAM



NOTE

SCHEMATIC DIAGRAM

1 2 3 4 5 6



6 7 8 9 10 11

A B C D E F G H

TONE / BALANCE UNIT

AMP UNIT

HEADPHONE UNIT

AC IN UNIT

+B LINE
-B LINE
SIGNAL LINE

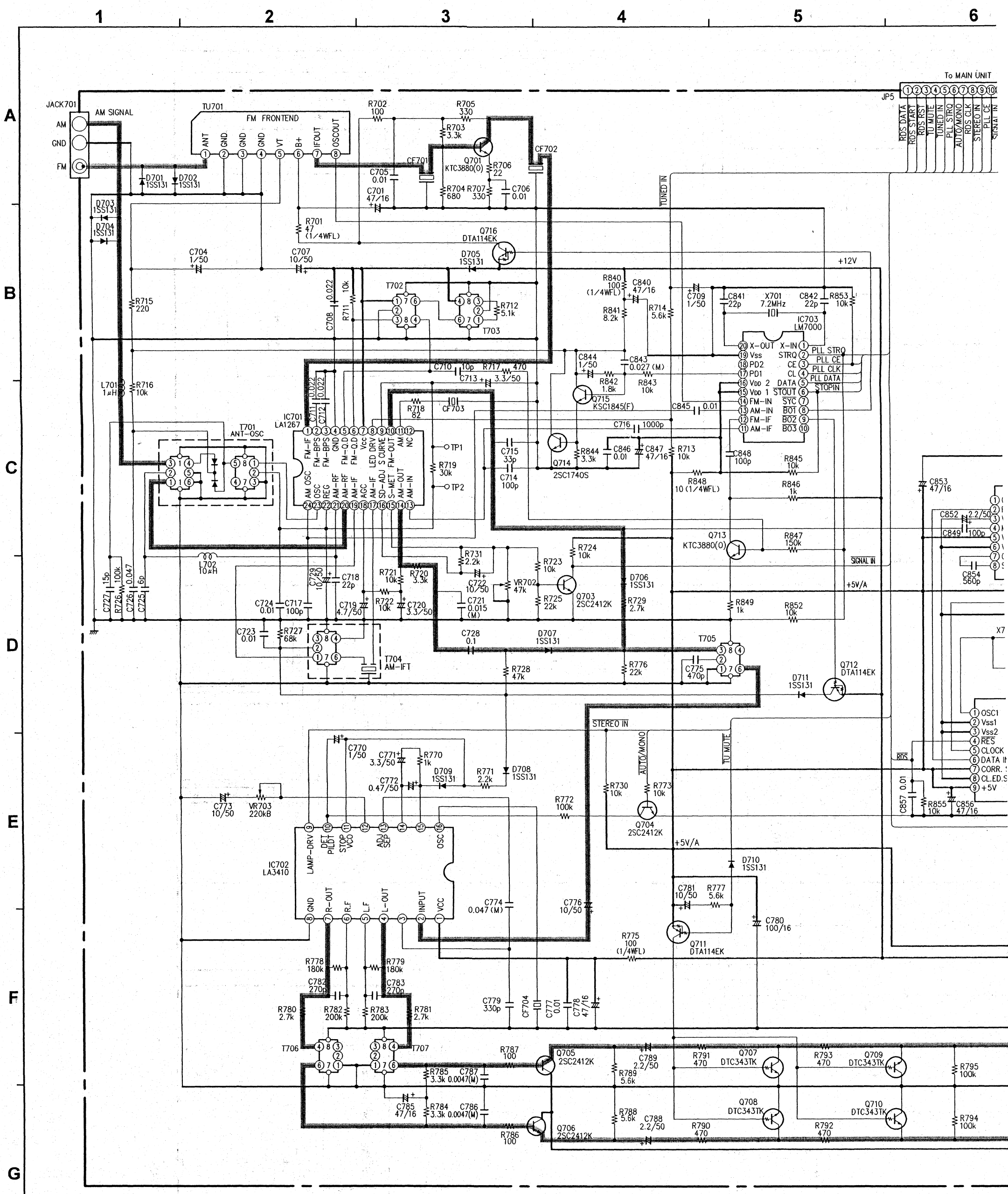
NOTES
ALL RESISTANCE VALUES IN OHM. k=1,000 OHM, M=1,000,000 OHM
ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO FARAD
EACH VOLTAGE AND CURRENT ARE MEASURED AT NO SIGNAL INPUT CONDITION.
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

WARNING:
Parts marked with this symbol ⚠ ▨ have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

CAUTION:
Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power cord is less than 240 kohms, the unit is defective.

WARNING:
DO NOT return the unit to the customer until the problem is located and corrected.

SCHEMATIC DIAGRAM



NOTES

ALL RESISTANCE VALUES IN OHM. k=1,000 OHM, M=1,000,000 OHM

ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO FARAD

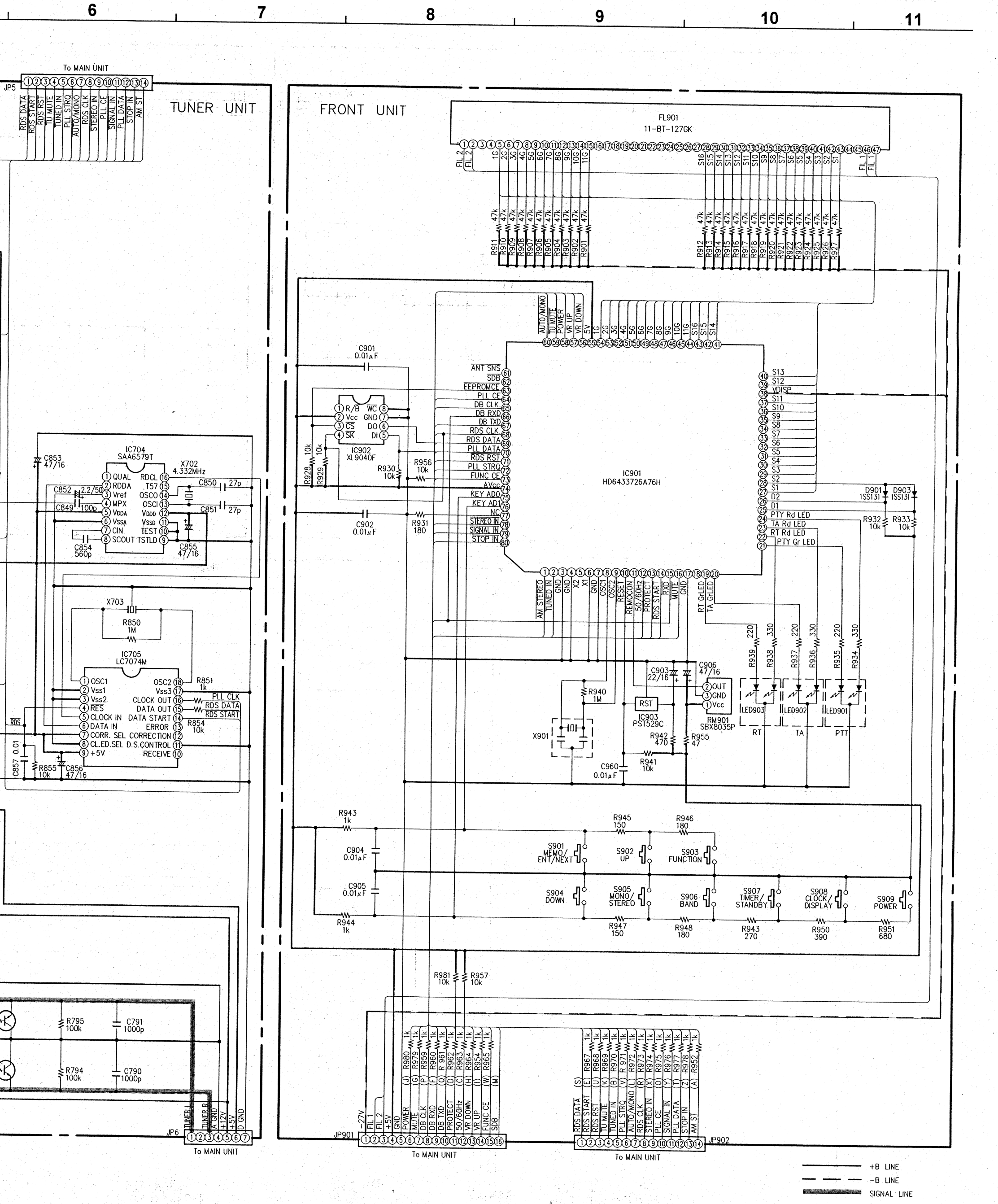
EACH VOLTAGE AND CURRENT ARE MEASURED AT NO SIGNAL INPUT CONDITION.

CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

WARNING:
Parts marked with this symbol ⚠ ▒ have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

CAUTION:
Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power cord is less than 240 kohms, the unit is defective.

WARNING:
DO NOT return the unit to the customer until the problem is located and corrected.


6
7
8
9
10
11
TUNER UNIT
FRONT UNIT
To MAIN UNIT
JP5
RDS DATA
RDS START
RDS RST
TU MUTE
TUNED IN
PLL STRQ
AUTO/MONO
RDS CLK
STEREO IN
PLL CE
SIGNAL IN
PLL DATA
STOP IN
AM ST
FL901
11-BT-127GK
FIL 2
FIL 1
R911 R910 R909 R908 R907 R906 R905 R904 R903 R902 R901
R912 R913 R914 R915 R916 R917 R918 R919 R920 R921 R922 R923 R924 R925 R926 R927
47k
C901
0.01μF
ANT SNS
SDB
EEPROMCE
PLL CE
DB CLK
DB RXD
DB TXD
RDS CLK
RDS DATA
PLL DATA
RDS RST
PLL STRQ
FUNC CE
AVcc
KEY AD0
KEY AD1
NC
STEREO IN
SIGNAL IN
STOP IN
IC902
XL9040F
R/B WC
Vcc GND
CS DO
SK DI
R928 10k
R929 10k
R930 10k
R956 10k
C902
0.01μF
R931 180
IC901
HD6433726A76H
AUTO/MONO
TU MUTE
POWER
VR UP
VR DOWN
5V
S16 S15 S14 S13 S12 S11 S10 S9 S8 S7 S6 S5 S4 S3 S2 S1
VDISP
D2
D1
PTY Rd LED
TA Rd LED
RT Rd LED
PTY Gr LED
D901 1SS131
D903 1SS131
R932 10k
R933 10k
AM STEREO
TUNED IN
GND
X2
X1
OSC1
OSC2
RESET
REMOCON
50/60Hz
PROTECT
RDS START
RXD
MUTE
RT GrLED
TA GrLED
R939 220
R938 330
R937 220
R936 330
R935 220
R934 330
LED903
LED902
LED901
RT
TA
PTT
C906
47/16
C903
22/16
R940
1M
RST
IC903
PST529C
RM901
SBX8035P
OUT
GND
Vcc
X901
R942
470
R955
47
R941
10k
C960
0.01μF
C853
47/16
IC704
SAA6579T
X702
4.332MHz
C850 27p
C851 27p
C852 2.2/50
C849 100p
C854
560p
C855
47/16
QUAL
RDDA
Vref
MPX
VDDA
VSSA
CIN
SCOUT
RDCL
T57
OSCO
OSCI
VDDD
VSSD
TEST
TSTLD
X703
R850
1M
IC705
LC7074M
OSC1
Vss1
Vss2
RES
CLOCK IN
DATA IN
CORR. SEL
CL.ED.SEL
+5V
OSC2
Vss3
CLOCK OUT
DATA OUT
DATA START
ERROR
CORRECTION
D.S.CONTROL
RECEIVE
R851
1k
PLL CLK
RDS DATA
RDS START
R854
10k
RDS
C857 0.01
R855
10k
C856
47/16
R943
1k
R944
1k
C904
0.01μF
C905
0.01μF
R945
150
R946
180
S901
MEMO/
ENT/NEXT
S902
UP
S903
FUNCTION
S904
DOWN
S905
MONO/
STEREO
S906
BAND
S907
TIMER/
STANDBY
S908
CLOCK/
DISPLAY
S909
POWER
R947
150
R948
180
R943
270
R950
390
R951
680
R981
10k
R957
10k
R795
100k
C791
1000p
R794
100k
C790
1000p
JP6
TUNER L
TUNER R
A GND
+12V
+5V
D GND
To MAIN UNIT
JP901
−27V
FIL 1
FIL 2
+5V
GND
POWER
MUTE
DB CLK
DB RXD
DB TXD
PROTECT
50/60Hz
VR DOWN
VR UP
FUNC CE
SDB
R980 R979 R959 R960 R961 R962 R963 R964 R954 R965
1k
To MAIN UNIT
JP902
RDS DATA
RDS START
RDS RST
TU MUTE
TUNED IN
PLL STRQ
AUTO/MONO
RDS CLK
STEREO IN
PLL CE
SIGNAL IN
PLL DATA
STOP IN
AM ST
R967 R968 R969 R970 R971 R972 R973 R974 R975 R976 R977 R978 R952
1k
To MAIN UNIT
+B LINE
−B LINE
SIGNAL LINE